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# The Hunterian Lectures

ON THE

PRINCIPLES AND TECHNIQUE OF THE

# OPERATIVE TREATMENT OF MALIGNANT DISEASE OF THE MOUTH AND PHARYNX.

*Delivered before the Royal College of Surgeons of England on March 3rd and 5th, 1913,*

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## LECTURE I.

*Delivered on March 3rd.*

MR. PRESIDENT AND GENTLEMEN,—The respects in which the surgery of cancer of the mouth and pharynx falls below the standard that has been reached in many other departments of the art may be classified in three groups. First and most important is the uncertainty of cure; secondly, the danger of the operation and the distresses of the convalescence; and thirdly, the mutilation and disability which may be left by an operation otherwise perfectly successful.

### THE UNCERTAINTY OF CURE.

There can be no doubt that this is the great stumbling-block of surgeon and patient alike. It prevents the latter seeking advice in the earliest stages of his malady because he usually suspects its nature and is probably possessed of the deeply rooted conviction that cancer is incurable, while the former is discouraged from the hopeful and enterprising attitude which alone can lead to progress. He is aware that in any but the earliest cases he may submit his patient to a dangerous operation and a distressing convalescence, only to leave him still a victim to the disease the course of which will, perhaps, not even have been mitigated. This consideration applies, no doubt, to all operations for malignant disease, but is of particular force in regard to malignant disease of the mouth and pharynx. Here, when recurrence after operation takes place, it usually does so within a few months, so that the patient has not even secured from the treatment a moderate interval of comfort and good health.

This liability to early recurrence has, however, one less gloomy aspect, and that is, that should the patient remain well for a relatively short time he may be assured that the chance that permanent cure has been effected is very great. Many authorities seem to be of opinion that a year's freedom from recurrence is good evidence of cure in the case of squamous epithelioma. I have myself seen only one case in which a true recurrence occurred after a longer interval, and would venture the opinion that if at the end of 12 months from the operation the most careful examination fails to show any suspicion of disease, a very favourable prognosis may be given. Such a decision must, however, be founded on very careful examination, and needs a certain amount of experience to give it much value. For the purpose of considering the results of treatment in general it is, I think, desirable to double the period of probation, and not to regard cases as cured with any certainty until two years have elapsed. In these remarks I am, of course, leaving out of account cases of a second outbreak of the disease, such as will occur, for example, in a distinct part of a leucoplakic tongue many years after a growth has been removed.

An early superficial carcinoma on the free part of the tongue, if treated with due regard to modern principles, should be, and is, curable in practically all cases. The principles, through the application of which such results can be obtained, we owe to the late Sir Henry Butlin. His formulation of the two-stage operation, his insistence upon a systematic gland dissection in every case, and his work in the advancement of early diagnosis have incalculably enlarged the resources of surgery, and have furnished other workers in the field of his enthusiastic labours with a rich endowment of hope.

When, however, we turn to the more advanced cases and to growths in less easily accessible regions, we find the extent to which we can expect cure in any given case is very greatly reduced. It is just in these cases that a reasonable prospect of success would be of the greatest value. I am very far from suggesting that there should be any relaxation in our efforts to secure early diagnosis, but I am inclined to think that until we can attain at least fairly good results in the moderately advanced cases—that is to say, the average cases—it will be difficult to get the public to appreciate the great advantages of early diagnosis. The general conviction of the incurability of cancer is founded on the results of operation in the average fairly advanced case, and until this conviction is shaken I fear the public will remain relatively indifferent and pessimistic as to the advantages of early treatment. Every surgeon of any experience is aware that as regards its accessibility to treatment early cancer is a totally different disease from even moderately advanced cancer, but I am very doubtful as to whether we shall ever be able to enforce this fact by direct statement so long as the treatment of advanced cases furnishes the public with so many terrible object lessons in the apparent intractability of the disease.

### VARIETIES OF MALIGNANT DISEASE MET WITH IN THE MOUTH AND PHARYNX.

In inquiring into the difficulties of eradicating malignant disease of the mouth and pharynx, the first step is to analyse as far as possible the varieties in which the disease occurs. The clinical and pathological study of this part of the subject does not seem to have been followed out as fully as it might have been, and I believe it is not generally appreciated how regularly the disease tends to follow certain types and to infest certain regions, and how much information for the guidance of treatment and prognosis can be got from a familiarity with these characteristics.

#### ANATOMICAL VARIETIES.

##### *The Mouth.*

The distribution of malignant disease within the mouth is so familiar that no detailed description is necessary. Four cardinal types are recognisable:—

(*a*) Growths of the oral part of the tongue—that is, of the part of the tongue which lies in front of the circumvallate papillæ and is clothed on its dorsum and margins with papillary mucous membrane. Usually the tumour begins on the lateral margin, frequently on the dorsum, and sometimes on the under surface.

(*b*) Growths of the floor of the mouth. These begin either on the sublingual fold between the tongue and the molar teeth or on the frænum of the tongue. A distinct difference in the malignancy of the two forms is frequently to be observed.

(*c*) Growths of the gum starting in the mucous membrane around the teeth. This form may cause difficulties of diagnosis. The bone is involved early. In the lower jaw it may merely be exposed by the growth; in the upper jaw the bone being much less dense is apt to undergo rapid destruction, with perforation of the antrum. Very often in these cases the direct evidence of the presence of malignant disease is slight and ambiguous.

(*d*) Growths of the cheek are the least common. They usually start somewhat outside the angle of the mouth. The closure of the jaws and the suppuration in the cheek may cause the diagnosis of an inflammatory lesion to be made.

##### *The Pharynx.*

It is in regard to this group that the recognition of the different anatomical types is most important. Early diagnosis and satisfactory treatment may depend entirely upon the identification of the exact form of the disease, and it frequently happens that such identification is by no means easy unless it is founded on considerable experience. The growths of the pharynx seem to have been but little described and classified from the point of view of their starting-points. Post-mortem evidence is, of course, valueless, since death does not usually occur until the growth has spread widely. Clinical evidence obtained by examination by the laryngoscope or by the direct method has frequently proved in my experience to be most misleading. The only means which can give exact information is the direct observation of these tumours in their early stages at operations undertaken for their removal. No very

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# The Hunterian Lectures

ON THE

## PRINCIPLES AND TECHNIQUE OF THE OPERATIVE TREATMENT OF MALIGNANT DISEASE OF THE MOUTH AND PHARYNX.

*Delivered before the Royal College of Surgeons of England on March 3rd and 5th, 1913,*

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### LECTURE I.

*Delivered on March 3rd.*

MR. PRESIDENT AND GENTLEMEN,—The respects in which the surgery of cancer of the mouth and pharynx falls below the standard that has been reached in many other departments of the art may be classified in three groups. First and most important is the uncertainty of cure; secondly, the danger of the operation and the distresses of the convalescence; and thirdly, the mutilation and disability which may be left by an operation otherwise perfectly successful.

#### THE UNCERTAINTY OF CURE.

There can be no doubt that this is the great stumbling-block of surgeon and patient alike. It prevents the latter seeking advice in the earliest stages of his malady because he usually suspects its nature and is probably possessed of the deeply rooted conviction that cancer is incurable, while the former is discouraged from the hopeful and enterprising attitude which alone can lead to progress. He is aware that in any but the earliest cases he may submit his patient to a dangerous operation and a distressing convalescence, only to leave him still a victim to the disease the course of which will, perhaps, not even have been mitigated. This consideration applies, no doubt, to all operations for malignant disease, but is of particular force in regard to malignant disease of the mouth and pharynx. Here, when recurrence after operation takes place, it usually does so within a few months, so that the patient has not even secured from the treatment a moderate interval of comfort and good health.

This liability to early recurrence has, however, one less gloomy aspect, and that is, that should the patient remain well for a relatively short time he may be assured that the chance that permanent cure has been effected is very great. Many authorities seem to be of opinion that a year's freedom from recurrence is good evidence of cure in the case of squamous epithelioma. I have myself seen only one case in which a true recurrence occurred after a longer interval, and would venture the opinion that if at the end of 12 months from the operation the most careful examination fails to show any suspicion of disease, a very favourable prognosis may be given. Such a decision must, however, be founded on very careful examination, and needs a certain amount of experience to give it much value. For the purpose of considering the results of treatment in general it is, I think, desirable to double the period of probation, and not to regard cases as cured with any certainty until two years have elapsed. In these remarks I am, of course, leaving out of account cases of a second outbreak of the disease, such as will occur, for example, in a distinct part of a leucoplakic tongue many years after a growth has been removed.

An early superficial carcinoma on the free part of the tongue, if treated with due regard to modern principles, should be, and is, curable in practically all cases. The principles, through the application of which such results can be obtained, we owe to the late Sir Henry Butlin. His formulation of the two-stage operation, his insistence upon a systematic gland dissection in every case, and his work in the advancement of early diagnosis have incalculably enlarged the resources of surgery, and have furnished other workers in the field of his enthusiastic labours with a rich endowment of hope.

When, however, we turn to the more advanced cases and to growths in less easily accessible regions, we find the extent to which we can expect cure in any given case is very greatly reduced. It is just in these cases that a reasonable prospect of success would be of the greatest value. I am very far from suggesting that there should be any relaxation in our efforts to secure early diagnosis, but I am inclined to think that until we can attain at least fairly good results in the moderately advanced cases—that is to say, the average cases—it will be difficult to get the public to appreciate the great advantages of early diagnosis. The general conviction of the incurability of cancer is founded on the results of operation in the average fairly advanced case, and until this conviction is shaken I fear the public will remain relatively indifferent and pessimistic as to the advantages of early treatment. Every surgeon of any experience is aware that as regards its accessibility to treatment early cancer is a totally different disease from even moderately advanced cancer, but I am very doubtful as to whether we shall ever be able to enforce this fact by direct statement so long as the treatment of advanced cases furnishes the public with so many terrible object lessons in the apparent intractability of the disease.

#### VARIETIES OF MALIGNANT DISEASE MET WITH IN THE MOUTH AND PHARYNX.

In inquiring into the difficulties of eradicating malignant disease of the mouth and pharynx, the first step is to analyse as far as possible the varieties in which the disease occurs. The clinical and pathological study of this part of the subject does not seem to have been followed out as fully as it might have been, and I believe it is not generally appreciated how regularly the disease tends to follow certain types and to infest certain regions, and how much information for the guidance of treatment and prognosis can be got from a familiarity with these characteristics.

#### ANATOMICAL VARIETIES.

##### *The Mouth.*

The distribution of malignant disease within the mouth is so familiar that no detailed description is necessary. Four cardinal types are recognisable:—

(*a*) Growths of the oral part of the tongue—that is, of the part of the tongue which lies in front of the circumvallate papillæ and is clothed on its dorsum and margins with papillary mucous membrane. Usually the tumour begins on the lateral margin, frequently on the dorsum, and sometimes on the under surface.

(*b*) Growths of the floor of the mouth. These begin either on the sublingual fold between the tongue and the molar teeth or on the frænum of the tongue. A distinct difference in the malignancy of the two forms is frequently to be observed.

(*c*) Growths of the gum starting in the mucous membrane around the teeth. This form may cause difficulties of diagnosis. The bone is involved early. In the lower jaw it may merely be exposed by the growth; in the upper jaw the bone being much less dense is apt to undergo rapid destruction, with perforation of the antrum. Very often in these cases the direct evidence of the presence of malignant disease is slight and ambiguous.

(*d*) Growths of the cheek are the least common. They usually start somewhat outside the angle of the mouth. The closure of the jaws and the suppuration in the cheek may cause the diagnosis of an inflammatory lesion to be made.

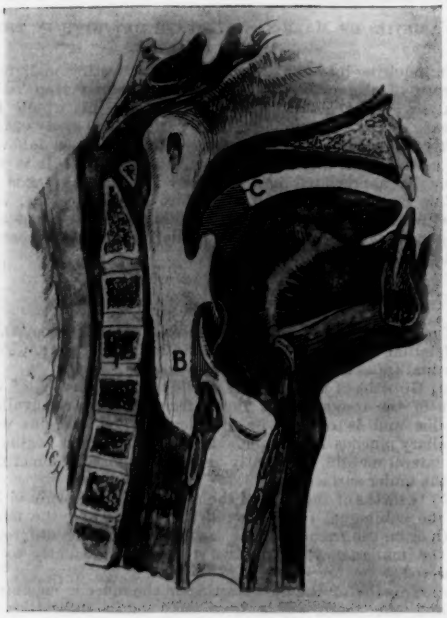
##### *The Pharynx.*

It is in regard to this group that the recognition of the different anatomical types is most important. Early diagnosis and satisfactory treatment may depend entirely upon the identification of the exact form of the disease, and it frequently happens that such identification is by no means easy unless it is founded on considerable experience. The growths of the pharynx seem to have been but little described and classified from the point of view of their starting-points. Post-mortem evidence is, of course, valueless, since death does not usually occur until the growth has spread widely. Clinical evidence obtained by examination by the laryngoscope or by the direct method has frequently proved in my experience to be most misleading. The only means which can give exact information is the direct observation of these tumours in their early stages at operations undertaken for their removal. No very

valuable statements can be made, therefore, until our experience derived from this source is much larger. I shall, therefore, give merely a provisional classification based on my own operative experience. I may add, with regard to methods of examination, that I attach far more importance to palpation with the finger than to any other method. As far down as the upper opening of the larynx it is a source of information superior to any other. External examination of the neck, as we shall see later, is sometimes of great value in the diagnosis of the primary tumour, and occasionally is all that is necessary. Finally, I would remind you of the fact, familiar to all, that almost invariably at operation the growth is found to be more extensive than was expected, and sometimes very much more extensive.

Tumours of the pharynx lend themselves readily to classification into fairly definite groups. The various groups which can be distinguished are of great practical importance, since for each of them a standard operation can be devised

FIG. 1.




Diagrammatic section of pharynx to show situation of three of the principal regions in which tumours mainly occur. A, Hypopharyngeal group. B, Epilaryngeal group. C, Oropharyngeal group.

which gives adequate means of dealing with any operable tumour of the given group. The differentiation is not, however, merely anatomical, but corresponds also fairly accurately with certain peculiarities of age and sex incidence.

Seeing that adequate exposure of a given tumour is an essential preliminary to satisfactory removal of it, it is obviously of great importance for the surgeon to recognise the class to which the tumour belongs and thus to be able to choose the proper method of attacking it, for an unsuitable method of approach may render impossible the satisfactory completion of the highly complex operation which is often desirable.

The anatomical classification which I have found most convenient is as follows: (1) nasopharyngeal tumours; (2) oropharyngeal tumours; (3) epilaryngeal tumours; (4) tumours of the sinus pyriformis; and (5) hypopharyngeal tumours. (Fig. 1.) Each of these groups must be dealt with by a special operation, whereby any member of the group can be exposed and if operable removed.

1. *Tumours of the nasopharynx.*—This group is peculiar in two important particulars: first, in that the squamous epithelioma is almost entirely absent from it; and secondly, because symptoms are often very inconspicuous in the early stages, so that it is almost impossible for a diagnosis to be made at a period when successful treatment is possible. In my experience almost all true malignant tumours here are endotheliomata of a peculiar and characteristic type. A sarcoma is occasionally found. All these occur on the roof and lateral wall, especially the latter.

The symptoms may be divided into three groups.

(*a*) *Pharyngeal.* Hæmorrhage, obstruction of the nose. Both these are much less common than is sometimes thought, and this is perhaps a reason why a diagnosis is often not made.

(*b*) *Symptoms due to direct extension of growth.* Into the lateral wall, causing unilateral fixation of soft palate, deafness from pressure on Eustachian tube, trigeminal neuralgia through involvement of inferior maxillary nerve and sometimes superior maxillary nerve, closure of jaws through extension to internal pterygoid muscle. Into the skull through the basal foramina, causing symptoms of cerebral tumour. This latter mode of extension is relatively late, the former relatively early.

(*c*) *Enlargement of glands.* This occurs early, and on account of the relative absence of nasopharyngeal symptoms is apt to cause difficulty. The glands are characteristic clinically. They are firm but accompanied by much periadenitis, so that they are frequently mistaken for glands of inflammatory origin. One of my patients had been treated with tuberculin for six months before I saw him. As a matter of fact, the condition clinically does closely resemble the fibrotic variety of tuberculous glands and to some extent gummatous glands.

The endothelioma of the pharynx is a remarkable and interesting tumour, presenting many very characteristic features which have not, however, received much attention on account probably of cases not having been operated on very frequently. I shall not be able to deal with these tumours fully here, but may mention their especial frequency in the young adult and adult male, the liability to show inflammatory signs and to suffer inflammatory complications such as recurrent suppuration, and their extreme intractability to operative treatment in any but the very earliest stages. The area in which they occur does not exactly correspond with the anatomical classification I have given, as in addition to the lateral wall of the nasopharynx and to some extent the roof, they originate in the tonsil not very uncommonly. It is perhaps worthy of note that the tract of tissue about the inner ends of the two first visceral clefts is that to which this very special class of tumour is practically limited.

I have known of cases in which such a tumour has been found in a tonsil which has been removed by enucleation and in which no recurrence has occurred. The more fully developed cases with which alone I have had to deal have proved quite inveterate. The disease can be checked for a time but not cured. In all these cases, however, the diagnosis might have been made very much earlier had the special features of the disease been more generally known. In regard, therefore, to endothelioma of the nasopharynx and tonsil (pharyngeal endothelioma) we are at present entirely dependent upon very early diagnosis, and until that is generally mastered the surgeon will remain unable to give any good hope of cure.

2. *Tumours of the oropharyngeal region.*—The term oropharyngeal is conveniently used to indicate a group of tumours which all begin within a comparatively small area and can all be exposed for removal by a single standard operation. The region centres about the tonsil and includes the anterior faucial pillar and the pharyngeal part of the tongue—that is, the part behind the circumvallate papillæ. Some further reference to the various growths occurring here is desirable.

(*a*) True tonsillar tumours. Of these epithelioma is the most common, but I have also met with endothelioma and mixed-cell sarcoma. Lymphosarcoma I have never seen at a stage in which the tumour offered the least prospect of curability by operation. Epithelioma, the most important tumour, tends to spread into the tongue to some extent, but chiefly downwards along the groove between the tongue and lateral pharyngeal wall into the pyriform sinus. This marked tendency to longitudinal spread renders free longitudinal exposure an essential necessity in the operative technique.

(*b*) Faucial pillar growths. These are always epitheliomata and are not at all rare. They begin on the front of the

anterior pillar and soon involve the tongue and tonsil, tending to spread in exactly the same way as true tonsillar growths.

(*c*) Lingual growths. Two forms of epithelioma beginning in the tongue are included in the group. First, the common type which begins just at the lingual attachment of the pillar in the neighbourhood of the remains of the foliate papilla. The importance of this interesting vestige was first shown by Butlin. He called attention to the frequency with which it becomes irritated by the last molar tooth and gives rise to the erroneous diagnosis of epithelioma. It must be remembered also—and this increases the difficulty of diagnosis—that this very spot is, in fact, a common starting point for epithelioma.

The second form of lingual carcinoma which comes into this group is that most formidable variety which begins in the part behind the circumvallate papillæ, generally near the middle line. It owes its seriousness to the remarkable tendency it has to grow into the substance of the tongue without in the early stages ulceration or projection at the surface. Thus it happens that the disease runs for a considerable time a practically symptomless course. Some discomfort in swallowing, some slight limitation in protrusion of the tongue, and some slight induration of its substance in the hindmost part are for long the only signs. The most difficult and dangerous of all the operations on the tongue is necessary for the removal of the tumour, and the results in my experience are correspondingly bad. Possibly good results might be got if the clinical picture of the disease were more widely known and operation fairly early in the case rendered possible. It must always, however, remain one of the graver forms, since the absence or ambiguity of the early symptoms is such as often not even to arouse the patient's attention.

3. *Tumours of the epilaryngeal region.*—The remaining types we have to deal with are all epitheliomata, and this fact simplifies to some extent the full discussion of them which is necessary.

The term "extrinsic cancer of the larynx" is one which has long been current as a name for tumours involving the pharynx in the neighbourhood of the larynx. It served a useful purpose in marking a distinction from the true intralaryngeal tumours or "intrinsic cancers of the larynx," but it helped to encourage the belief that "extrinsic" tumours, being essentially laryngeal, could be dealt with only by extirpating the larynx. Without prejudice to the question of the necessity or otherwise for laryngectomy, it would be more in accordance with fact to describe all such tumours as essentially pharyngeal in origin, and to reserve the term laryngeal cancer for the growths beginning in and about the vocal cord—that is, the "intrinsic" cancers.

Of such pharyngeal tumours as arise in the neighbourhood of the larynx, those which begin in or near the margin of the upper opening form a group so distinct in their characters and so uniformly accessible by a single operation, that I venture to distinguish them under a special name as the epilaryngeal tumours of the pharynx. These growths may originate upon the aryteno-epiglottic fold or upon the epiglottis itself. The latter situation is, in my experience, decidedly the commoner. Neither form has any great tendency to invade the essential parts of the larynx. Perhaps, however, it would be better to say that at the time of operation it is usually found that a considerable margin of healthy tissue is present between the growth and the vocal cords; sometimes, indeed, the whole circumference of the upper opening is affected before the vocal cords are reached. The relative freedom of the body of the larynx in these cases is probably due less to any essential benignity of the growth than to the earliness of the period at which it produces symptoms. There is, perhaps, no single feature which affects the treatment of malignant disease of the mouth or pharynx more favourably than the growth being in a situation which leads to early and severe symptoms.

The symptoms of the epilaryngeal group are an altération in the quality of the voice, giving it a peculiar "throaty" character, hoarseness, difficulty in swallowing, and difficulty in breathing.

The general behaviour of these growths as regards treatment is favourable. They can be dealt with at least frequently without laryngectomy, and permanent cure can undoubtedly be obtained in moderately early cases. As far as my small experience goes I should regard this group as the most hopeful of all malignant pharyngeal tumours, and I have no doubt that the treatment of them can be firmly established as a standard measure with results satisfactory as to safety, as to the absence of serious mutilation, and as to the attainment of cure.

4. *Growths of the pyriform sinus.*—In the immediate neighbourhood of the larynx there occurs, however, another growth which presents a remarkable contrast with the epilaryngeal group as to symptoms, mode of extension, and curability. This is the tumour starting in the pyriform sinus, a tumour the frequency and importance of which have, I think, been greatly under-estimated.

I must remind you that the pyriform sinus is the deep recess which lies under cover of the ala of the thyroid cartilage between this and the upper opening of the larynx. Its external wall is the ala, its inner wall from below up the cricoid cartilage, the lateral part of the cricothyroid membrane and the structures of the aryteno-epiglottic fold. It is lined by a lax mucous membrane forming a diverticulum of the pharynx large enough in the adult male to admit the last joint of the thumb. Its cavity is quite inaccessible to laryngoscopic examination, which reveals only its mouth and would leave quite unsuspected the considerable recess that lies in front of this. It is usually just accessible to digital exploration, and can also be examined with the bronchoscope.

Growths originating here frequently run an absolutely latent course until they are far advanced. Often the first serious symptom is the appearance of a mass of glands in the neck, which on account of the absence of pharyngeal troubles the patient may ignore until they are quite inoperable. In the frequent cases of obviously malignant glands in the neck without ostensible primary tumour the sinus pyriformis should always be most carefully examined.

FIG. 2.

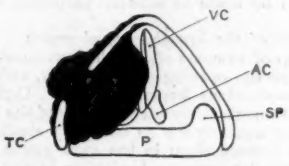



Diagram of section of larynx to show distribution of epithelioma of sinus pyriformis. VC, Vocal cord. AC, Arytenoid cartilage. SP, Sinus pyriformis. P, Pharynx. TC, Thyroid cartilage. The growth is in a moderately advanced condition and at about the stage when surgical advice is usually sought. The diagram shows three characteristic features of these growths: the penetration of the thyroid ala, the slight involvement of the lumen of the pharynx, the bulging inwards of the lateral laryngeal wall. At such a period no ulceration can usually be seen and the diagnosis of gumma is frequently made. Tumour shown in solid black.

These tumours spread in an extremely characteristic way. Starting in close contact with the thyroid cartilage they early involve the perichondrium of this and extend diffusely beneath it, leading to a subperichondral growth of epithelioma, which spreads insidiously until it may have affected widely the ala of the opposite side. Meanwhile the cartilage itself is attacked and comparatively soon perforated near the spot where the growth starts. A swelling then forms on the outer aspect of the ala, and tends also to be surrounded by a diffuse subperichondral thickening. Such a swelling is sometimes mistaken for a gland, but can usually be distinguished from such if the surgeon is familiar with these cases. Internally the growth tends to invade the lateral wall of the larynx, where it causes an œdema visible in the laryngoscope and later on fixation of the cord. It is quite rare for the growth to break through into the larynx and ulcerate there, but it tends to spread round the cricoid in close relation to the perichondrium. (Fig. 2.)

At this stage no symptoms beyond a slight hoarseness may be present. The only significant signs to be made out usually are: (1) some œdema of the aryteno-epiglottic fold and the lateral wall of the larynx below it; (2) a persistent pool of muco-pus between the arytenoid cartilage and the lateral wall of the pharynx, while the opposite side is quite free; (3) some thickening on the outer aspect of the ala of

the thyroid and firmly fixed to it. No ulceration is visible by laryngoscopic examination.

Later the tumour emerges from the recesses of the sinus and begins to attack the lumen of the pharynx. Here it tends to spread circularly and downwards towards the œsophagus. The extension round the pharynx, added to that round the larynx, gives the growth a figure-of-eight shape, and makes it the most formidable of all the pharyngeal epitheliomata.

The difficulty of diagnosis in anything like an early stage is scarcely credible. I have never seen a case in which at the time of operation the thyroid cartilage itself was not extensively invaded and perforated. In my experience, therefore, a total laryngectomy has always been obligatory. Fortunately, however, I believe this is the only tumour of the pharynx for which that terrible operation is invariably necessary, but it would seem that it must remain such unless our methods of diagnosis can be greatly improved, or until the desirability of exploratory operations on the pharynx in the presence of certain symptoms is generally accepted and enforced.

The chief cause of difficulty in the diagnosis is the laryngoscopic picture. This shows a smooth rounded swelling of the lateral wall of the larynx above the vocal cord, and usually no ulceration at all. These appearances lead to the diagnosis of an inflammatory lesion, usually gumma. The signs by which a correct opinion can be formed are the pool of muco-pus which fills the mouth of the sinus and betrays the presence of ulceration within, and the evidences of invasion of the ala of the thyroid. Sometimes a correct diagnosis can be made by external palpation of the larynx alone.

5. *Tumours of the hypopharyngeal region.*—A very well-marked group of tumours affects the lowermost parts of the pharynx below the opening of the larynx, and is thus conveniently described as hypopharyngeal. Certain tumours which occur somewhat beyond the limits of the hypopharynx of descriptive anatomy are so obviously similar that it is desirable to include them in the same group, which thus comes to comprise growths beginning in any part of the circumference of the pharynx below the upper opening of the larynx and on the posterior wall of the pharynx as high as the level of the epiglottis. Such tumours, occurring as they do for the most part on the narrowest part of the pharynx, usually produce difficulties in swallowing comparatively soon. Diagnosis, therefore, is possible at a fairly early stage. The late period at which most of my cases have been submitted to operation has been due chiefly to the supposed inoperability of these tumours rather than to diagnostic difficulties. It is sometimes, however, difficult to distinguish clinically between a hypopharyngeal tumour and one of the pyriform sinus. This difficulty is serious when it occurs, for the type of operation undertaken in the two cases would be widely different. Some of these tumours have a tendency to invade the œsophagus diffusely, thus becoming wholly inoperable. When the œsophagoscope tube cannot be passed beyond the growth it may be impossible to detect this extension and an operation necessarily fruitless be undertaken.

### *Age and Sex Distribution of the Different Groups.*

The facts as to the age and sex incidence of carcinoma of the mouth are well known, and I shall, therefore, not trouble you with the addition of my own small experience. I may, however, make the general statements that the disease is probably about ten times as common in men as in women, that in women it occurs at about the same age as it does in men, and that while women are subject to the forms which begin on the tongue and on the gum they seem to be very free from the form which begins on the floor of the mouth.

Growths of the pharynx present some remarkable peculiarities of age and sex incidence which need more detailed description. The *nasopharyngeal endothelioma* in the 10 cases I have had an opportunity of operating on has been a disease of the adult male, usually the young adult. I have seen a case in a young woman, but this is decidedly rare.

In the *oropharyngeal group* there were 9 cases of epithelioma of the tonsil or immediately adjacent parts. All the patients were males between 40 and 60. In addition, there was one mixed-cell sarcoma in an elderly woman and one endothelioma in a young man. In the *epilaryngeal* group there were 10 cases, all epithelioma and all in males between 40 and 60.

The growths of the *sinus pyriformis* have rarely proved suitable for operation, so that the number in which the diagnosis was exactly determinable by inspection was extremely small. Nevertheless, the clinical picture is so characteristic that one's experience of inoperable cases may perhaps be taken into account. If this be done there can be no doubt that the disease chiefly attacks males between 40 and 60. I have met with one remarkable exception in the case of a typical epithelioma of the sinus pyriformis in a young woman aged 27. The diagnosis was confirmed in this case at operation.

Of the *hypopharyngeal group*, in 5 cases the diagnosis was confirmed at operation and all were in women, most of whom were between 40 and 50. Taking into account numerous other inoperable cases in which the diagnosis was practically certain, I should be inclined to say the lower age limit is too high, and that cases are met with as young as 30 or even under.

To sum up the age and sex incidence of pharyngeal malignant disease, one may say broadly that if a line be drawn across the pharynx from the posterior wall at the level of the tip of the epiglottis to the anterior wall at the interarytenoid notch, all epitheliomata above the line will be in middle-aged and elderly men, while all below the line will be in young and middle-aged women. (Fig. 1, A.)

### PATHOLOGICAL TYPES AND AMENABILITY TO OPERATION.

I have already dealt with the peculiarities of the endotheliomata. My experience of sarcomata is not such as to justify any general conclusions; we have, therefore, now to consider the epitheliomata only.

In the first place, I should like to state with emphasis my conviction that at the present time the only treatment of squamous epithelioma which gives any hope of cure is adequate removal by a carefully planned operation. If the sinister reputation of the disease is to be modified at all it can only be through the study of its earlier clinical and pathological manifestations and by ceaseless attempts to improve the design and technique of operations.

### *Course of the Primary Growth.*

It is a commonplace to all surgeons of experience, though apparently unknown to the general public, that cancer in its early stages and cancer in its later stages behave in relation to treatment as if they were two entirely different diseases. It is equally well known that in moderately advanced and even in "early" cases it is often impossible to say whether a given tumour is likely to be curable or not. Cases of an unpromising appearance sometimes surprise us by their satisfactory results, and more often, unfortunately, cases of the most hopeful aspect prove to be of the most inveterate malignancy. We are not, however, entirely without means of forming some estimate as to the curability or otherwise of a given case. A squamous epithelioma is typically a surface growth. If the evolution of the disease be studied throughout its course it will be found that the primary tumour remains for a considerable time essentially a superficial condition; a large proportion of its bulk actually projects beyond the surface of the normal surrounding parts, while the deep aspect of the growth, although, of course, attached to the underlying tissues, can be felt to be marked off from them by an abrupt change of consistence—that is to say, in ordinary clinical terms the outline of the tumour is extremely well defined. After a variable period of growth a change in the physical signs of the tumour is established, and often somewhat abruptly. The deep extension of the growth seems to pass a critical point and then suddenly to increase. The projecting part of the mass no longer forms a large proportion of its bulk and the deep outline has become obscure. We no longer have to deal with the button-like mass inlaid, as it were, in the surface of the tongue, but with a tumour invading the substance. This change in type of growth usually occurs within a few months of the beginning of the disease, but it is sometimes delayed until a late period, and one then sees a large cauliflower growth, which in spite of its formidable appearance is by no means necessarily unsuitable for operation. Now, clinical experience shows that with this change in the mode of spread—often inconspicuous in the clinical features accompanying it—there is a very great increase in the difficulty of obtaining cure by operation. This observation is in accord with the admirable histological work of

Cheatle upon the spread of cancer of the tongue. He has shown that when once the muscular substance begins to be freely invaded there is a very rapid and diffuse infection of the tongue muscles. It is in the quiet period before deep extension begins that epitheliomata can be removed with a practical certainty of cure. It is probable, however, that some few growths are of the diffuse type from the very early stages. Prognosis, therefore, should be based rather on physical signs than on duration.

*Gland Involvement and its Varieties.*

If local inveteracy were the principal difficulty in the cure of cancer, it is obvious that, once the distinction between the two grades of the disease was recognised, the results of cancer of the tongue at any rate would be much better than they actually are. As is well known, however, the difficulty lies in the involvement of the lymphatic glands, and there can be no doubt that at the persent time a large number of patients are cured of the primary focus of the disease only to die miserably from gland infection. We owe chiefly to Butlin the firmly based generalisation that as soon as the primary disease is established the liability to gland infection has begun, with the practical corollary that the gland operation should be as much a part of the treatment as the removal of the primary growth. So essential is this principle, and so invariable should be this rule, that I would go so far as to say that it has actually been a hindrance to progress that certain cases do not develop a gland infection although treatment has been limited to removal of the primary growth. All of us, no doubt, have had patients who have refused to submit to the gland operation, and some few of whom have remained free from recurrence. The surgeon is, unfortunately, apt to be unduly impressed by such cases, and to be shaken in his belief in the invariable necessity of the gland dissection, which is at all times a difficult, tedious, and, from the patient's point of view, thankless procedure. It is now, however, quite definitely proved that any extensive experience will contain cases in which a gland dissection has revealed distinct foci of cancer, although the primary growth was small and superficial and no glandular enlargement could be recognised clinically. The only case in which I have felt justified in relaxing the rule as to the gland operation was in that of a patient aged 91. Here the treatment was definitely regarded as palliative only, and the fact that the patient survived the removal of the primary growth without the least trouble and lived for several years entirely free from recurrence is to be regarded as a fortunate accident.

The general rule for treatment should, therefore, be based on the knowledge that the primary growth and the possibility of gland infection appear practically together. A useful extension of the rule is the statement that the liability to gland infection bears no relation to the stage of the primary disease—that is to say, that for practical purposes there is no less liability to gland infection before the period of submucous invasion than there is after.

It is frequently assumed that when the glands are found clinically to be involved to any considerable extent the case is necessarily a hopeless one. My experience has not led me to share this view, and I think that a number of cases are lost through the undue pessimism of the surgeon discouraging him from submitting such patients to a thorough gland dissection. That there are, however, cases of even moderate gland invasion which defy all treatment there can be no doubt. Fortunately, we are not quite without clinical knowledge enabling us to some extent to discriminate between the two types. As long as the glands remain hard and well defined, even although they are quite numerous, the possibility of cure is still fair provided a really thorough dissection is done. If, however, the glands, though possibly not numerous or very large, are ill defined, and give the impression rather of inflamed than carcinomatous glands, then the chances are strongly against any operation, however large, proving effective. A dozen stony-hard, sharply defined glands are less serious than a single one of which the outline is obscure and the substance rather yielding. In my material I find six cases of really extensive gland involvement which have been cured by operation. In two of these the enlarged glands were on both sides of the neck and extended down to the clavicle. Both patients have been free from recurrence for over four years.

When the gland enlargement has been moderate and of the favourable type I have never seen recurrence after a thorough systematic dissection.

*Factors Influencing the Occurrence of Submucous Invasion.*

The onset of diffuse extension to the underlying structures is, as we have seen, an event of crucial importance in the history of the primary growth. Capricious as it is, certain factors which influence its early or late occurrence can be made out.

(*a*) Duration of the growth. All epitheliomata ultimately tend to become diffuse, some slowly, some more rapidly. When diffuse extension is well marked and the growth has infiltrated and welded together any considerable body of structures outside the one in which it grew, the case is completely inoperable, and removal, although it seems to be anatomically satisfactory, will be followed immediately by recurrence. The recognition of this condition is largely a matter of experience, but in general one may say that a loss of definition in the palpable outline of a large tumour is the most important sign.

(*b*) Situation of the growth. The underlying structures may favour the extension of a tumour in various ways, so that the situation has a considerable influence upon submucous invasion. The situations in which early invasion is particularly prone to occur are the floor of the mouth on the sublingual fold, the pharyngeal part of the tongue, and the sinus pyriformis. Consequently these three are the most formidable of all epitheliomata of the mouth and pharynx and can only be dealt with by the most extensive operations.

(*c*) Idiosyncrasy of the tumour. The nodular form of cancer of the tongue, one of the classical modes of onset of the disease, has a strong tendency to invade the muscular substance from the first, while it has little disposition to project from the surface or to ulcerate. It is of far more serious nature, other things being equal, than either the papillomatous or ulcerous form. Occasionally tumours of the epiglottis show the same peculiarity and penetrate the tongue early and deeply.

The combination of this variety of primary growth with the ill-defined inflammatory type of gland is unfortunately common and almost always defies the most resolute and extensive operation.

THE PLANNING OF THE OPERATION TO SECURE FREEDOM FROM RECURRENCE.

1. THE PRIMARY GROWTH.

Three types of growth present themselves for treatment, the superficial form (early cases), the form in which submucous invasion has begun or may be suspected (moderately advanced cases), and the form in which advanced submucous invasion has occurred.

(*a*) *Early Cases.*

Many of the growths on the tongue and in the epilaryngeal and hypopharyngeal regions are of this type. Experience shows that an excision of the tumour with a margin of tissue healthy to inspection and palpation not less than half an inch wide in every direction will give a practical certainty of freedom from recurrence. If the growth be certainly of the superficial type there will be no need for the excision to be especially free in any particular direction. Under special circumstances the margin may even be less than half an inch, but this should be regarded as undesirable. It is extremely important that the growth should be centrally placed in the part removed—any excess in one direction is an unnecessary mutilation, while any diminution is a risk. In order that such an excision may be carried out deliberately and systematically it is absolutely essential that the surgeon should obtain free and untroubled access to the part. The provision of free access is, in fact, very often the most important part of the operation.

(*b*) *Moderately Advanced Cases.*

Here a different standard must be adopted. The half-inch margin is now an irreducible minimum to which it is very undesirable to fall, and three-quarters to one inch should be looked upon as the desirable limit. Moreover, there will usually be certain directions in which the removal should be especially radical. For example, in the nodular form of cancer of the tongue or in cases originally superficial which

have developed submucous invasion, the muscles of the tongue on the same side must be removed as far as their attachments to the hyoid bone, as has been shown by the histological work of Cheatle. In cases of growths on the sublingual fold the removal posteriorly must be especially free, as it is towards the pharynx that such tumours tend to spread particularly. Growths of the tonsillar region must be removed with a very free inferior margin for similar reasons.

### (c) *Advanced Cases.*

Most of them are obviously inoperable. The disease seems to have reached an altogether uncontrollable condition in which it invades the whole region in microscopic outposts. In these circumstances an operation may appear to be anatomically successful in removing the growth with a good margin, but immediate recurrence is the rule and the convalescence, which is distressing enough, merges into the re-established disease. The performance of such operations is a mere virtuosity of surgical technique which exalts the manifestation of skill above its purpose. Nevertheless, there are a few of these desperate cases in which the surgeon of experience will feel compelled to recommend interference.

One can never be absolutely certain that uncontrollably diffuse invasion has occurred, and the submitting of a patient to an unsuccessful operation, distressing as it is, is not so terrible a mistake as allowing to die of cancer unrelieved a patient who might have been cured. In my opinion these very large operations are never justifiable as palliative procedures, and should never be advised unless a distinct hope of permanent cure can be entertained. The actual danger of the operation is, with modern technique, not usually great enough to be an important factor in the decision.

### *The Anatomical and Pathological Factors in the Planning of Operations.*

It will be noticed that I have spoken of operations so far strictly in terms of removal of the growth and without any reference to the removal of organs or structures containing the growth. This seems to me an essential principle of the treatment of malignant disease. Most of the operations of surgery were originally designed as anatomical procedures. This was inevitable in view of the difficulties under which the surgeon of those days worked. In the absence of anæsthesia and knowledge of the causes of wound infection it was triumph enough if the surgeon succeeded in removing the tongue, the jaw, the larynx, or so forth, and the possibilities of success were so narrow that any modification of the anatomical procedure to suit the particular disease or an actual example of it was scarcely to be considered. At such a stage of development operative surgery could be perfectly well mastered in the deadhouse. The surgeon there learnt to remove various parts of the body with adequate dexterity, and actual practice was largely a repetition of these chiefly anatomical exercises. The surgeon might amputate a limb, remove the tongue, or excise a joint most acceptably, guided entirely by his experience of operations on the corpse. Frequently, no doubt, the disease was satisfactorily dealt with, but it would be too much to expect that pathological processes should limit themselves to parts of the body which were easy to remove, and in consequence there was always a tendency on the one hand to sacrifice unnecessarily structures which, though not diseased, came within the limits of the operation, and, on the other hand, to spare diseased structures because they lay outside the anatomical region the operation was designed to remove.

To-day the whole basis of operative surgery has changed and the nature of an operation is determined by pathological considerations, anatomical requirements having been reduced by the increase in the resources of the surgeon to a secondary though still important place. There are, however, some vestiges of the influence of the anatomical period still remaining, and it is most important that these should be recognised. We are still apt to go on "excising the upper jaw for malignant disease," undeterred by the fact that in quite a number of cases after the operation has been carried out, in the venerable phrase, "secundum artem," the bulk of the disease, or possibly all of it, has been left behind. The same criticism applies to some extent to excision of the tongue and to laryngectomy for cancer. The gradual replacement of anatomical by pathological indications is going on rapidly, but there is perhaps less conscious recognition of the fundamental change of principle than there might be.

There are very few cases of an anatomical and pathological distribution of disease so exactly corresponding that a precisely designed anatomical operation removes the morbid condition and nothing else. Appendicitis and cholecystitis are instances that readily occur to one, but apart from these and a few such fortunate coincidences surgeons are having more and more to follow pathological requirements in their operations, and to overstep the anatomical boundaries which an older surgery was forced to remain within.

Nowhere is the tendency more marked than in the surgery of the mouth and pharynx, where the pathological requirements of the case must be supreme, so that the attainment of cure and the limiting of mutilation may be subserved at the same time. The formal purely anatomical operation

FIG. 3.

To show extent of gland dissection in early cases. The shaded area is that from which all connective tissue, fat, and glands must be removed.

retains, however, a function in providing means of access to the tumour. This function is so important that it should be recognised as a distinct part of the operation.

Since epitheliomata are essentially growths of the mucous membrane the provision of access renders necessary the free exposure of the mucous surface from which the tumour arises. Moreover, access must be allowed which provides for the free removal of the tumour, especially in the direction in which it particularly tends to spread.

We are now in a position to summarise shortly the essentials of an operation which shall give a maximal probability of cure: (1) Free exposure as a formal stage of the operation; (2) exposure of the growth on its mucous aspect; (3) exposure must be capable of indefinite extension along the line of spread of the tumour; (4) removal of the tumour as a definite stage of the operation; and (5) removal to be regulated entirely by the pathological necessities of the case, a precise margin of healthy tissue being included on every aspect, the extent of the margin and its increase in any special direction being determined by the nature of the growth. It will be seen that these requirements are left unsatisfied by many operations for cancer of the tongue carried out through the floor of the mouth, by operations for removal of tonsillar tumours through the same side of the neck, and by many laryngectomies.

### II. THE GLAND OPERATION.

Two types of gland operation are necessary according to whether the glands are much involved or not.

*(a) Gland Involvement Clinically Slight or Absent.*

The dissection of the anterior triangle originally designed by Butlin and practised so successfully by him needs extension in two ways to render it an ideal procedure in preventing recurrence. First, a sufficient number of cases of very early bilateral gland involvement is met with to render the dissection of both sides necessary as an extreme precaution. In these early cases it can be carried out without extra risk.

Secondly, the operation should aim at removing the deep cervical chain of glands to its upper end against the skull, as it is in this region that recurrence is especially likely to occur. This involves a considerable increase in the horizontal extent of the dissection, which must be carried backwards under the sternomastoid to the posterior margin of the muscle. Completed in this way, the dissection will be found to comprise about four-fifths of the circumference of the neck, from which all lymphoid tissue has been removed. In these early cases the horizontal extension of the operation is undoubtedly more important than the vertical, which need not go below the thyroid cartilage. (Fig. 3.)

This posterior extension I regard as absolutely essential, though it makes the operation much more difficult. The spinal accessory nerve must first be found and isolated and raised up with the sternomastoid. The dense pad of fibrous and fatty tissue between the sternomastoid superficially and the splenius and levator anguli deeply is cut through at the posterior edge of the sternomastoid until the muscles are exposed and then it is turned forwards. I have never seen recurrence after this operation when it has been done in suitable cases.

*(b) Gland Involvement Extensive.*

In this type of case the bilateral operation cannot usually be done with safety at one sitting. Sometimes, when there was no evidence at all of involvement of the opposite side, I have omitted the second dissection with success. The enlarged glands generally surround the spinal accessory nerve, so that there is no question of preserving it. The sternomastoid and the jugular vein are also usually either involved or in suspicious relation to the glands so that they should be removed.

The muscle is divided at the clavicle, and the jugular vein tied and divided just above. The muscle and vein are raised together with the contents of the triangles. It is usually convenient to tie and divide the external carotid at its origin. The submaxillary triangle should always be cleared. The jugular vein is divided just above the digastric and the sternomastoid at its insertion. The operation is much easier than the ordinary bilateral dissection in early cases and takes much less time. Moreover, the convalescence is shorter, as, on account of the absence of the sternomastoid, there is no cavity for serum to accumulate in. The operation looks and sounds much more serious than it is and is usually surprisingly successful in eradicating the disease, unless the glands are of the diffuse inflammatory type. In addition to it, the dissection of the supraclavicular triangle is sometimes desirable and is not serious.

Occasionally in the first six months or so following upon a thorough gland operation a peculiar chronic enlargement of the glands bordering upon the area which has been dissected is to be observed. These become moderately enlarged and firm and then remain stationary, showing no further progressive change and no fixation. They do not lose the ovoid form and do not attain a long diameter greater than about three-quarters of an inch. The appearance is one decidedly alarming to the inexperienced, and is almost inevitably mistaken for a manifestation of recurrence. In fact, it is scarcely possible for the surgeon not to advise a further operation. Such operations I have repeatedly carried out, but microscopical examination of the glands removed has invariably failed to show any evidence of malignant disease. These experiences lead one to suppose that this kind of enlargement is in some way hypertrophic, in compensation, as it were, for the large tract of lymphoid tissue which has been removed. Great caution is, of course, necessary in deciding that in a given case the surgeon has to deal merely with this harmless condition. The moderate size of the affected glands and the absence of progressive enlargement are the most important features to be noticed. These remarks apply only to cases in which the primary growth was an epithelioma. In cases of endothelioma I have never seen gland enlargement which did not prove to be a recurrence.

*The Limits of Operability in Gland Involvement.*

In a general way one may say that more mistakes are made in the direction of pronouncing tumours inoperable than in attempting operations which cannot be completed. The reason for this is that in advanced gland cases the principal mass is usually under the upper end of the sternomastoid and fixed to it near its insertion. This gives the erroneous impression that the growth is fixed to the spine. Glands beneath the muscle are also likely to appear ill-defined and diffuse when they are in fact not so.

When glands not under the muscle are indefinite and accompanied by brawniness of the skin and œdema it is generally quite useless to operate.

It is very remarkable how the common and internal carotids and the vagus escape involvement in gland masses until very late. Such masses tend to spread backwards and involve the muscles on the floor of the posterior triangle long before they attack the common carotid. When the common carotid and vagus are involved it is doubtful whether the operation should be carried out, and much would depend on the kind of primary growth and the condition of the patient. Removal of these two structures is a serious addition to the danger of the operation in itself, but it implies such extensive disease that cure is practically impossible. The limits of operability, then, lie less in technical difficulties than in the uselessness of the operation.

## THE MORBID ANATOMY OF PERIODONTAL DISEASE.[1]

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THE odontological collection in the Museum of the Royal College of Surgeons of England contains an excellent, probably unique, series of specimens illustrating the morbid anatomy of periodontal disease. The specimens include examples of the disease in man as well as in the lower animals, the value of the collection being enhanced by the fact that all stages of the disease are illustrated. The object of this paper is briefly to discuss the more instructive specimens in the collection.

### 1. PERIODONTAL DISEASE AS SEEN IN MAN.

Before dealing with the abnormal it will be advantageous to consider the normal. In Fig. 1 is shown the mandible of a female, 22 years of age, with an alveolar process which may be regarded as normal. The margin of the bone approaches on the buccal aspect to just below the necks of the teeth and is continued across from one tooth to another in a straight line, so that a definite triangular space exists between the approximal aspects of the teeth. In the incisor region the bone does not follow such a straight line from tooth to tooth, but is continued upwards so that the space between the teeth is considerably less than that between the premolars and molars. The margin of the bone presents a smooth outline and the surface of the bone is likewise smooth, being pierced here and there with nutrient canals. The appearance of the bone in skiagrams is shown in Fig. 2. Between the front teeth the bone appears to end in a sharp spine, while between the back teeth it passes, as stated above, in a straight line. The outer aspect of the bone shows a dense layer, the inner portion presenting a cancellous appearance. In the maxilla a similar condition obtains.

Clinical experience shows that the disease usually commences either in the molar region or around the incisors. When the disease commences around the back teeth the initial lesion is a slight destruction of the bone in the centre of the interproximal spaces. This early stage is shown in

[1] An abstract of a museum demonstration given at the Royal College of Surgeons of England on Nov. 6th, 1912.

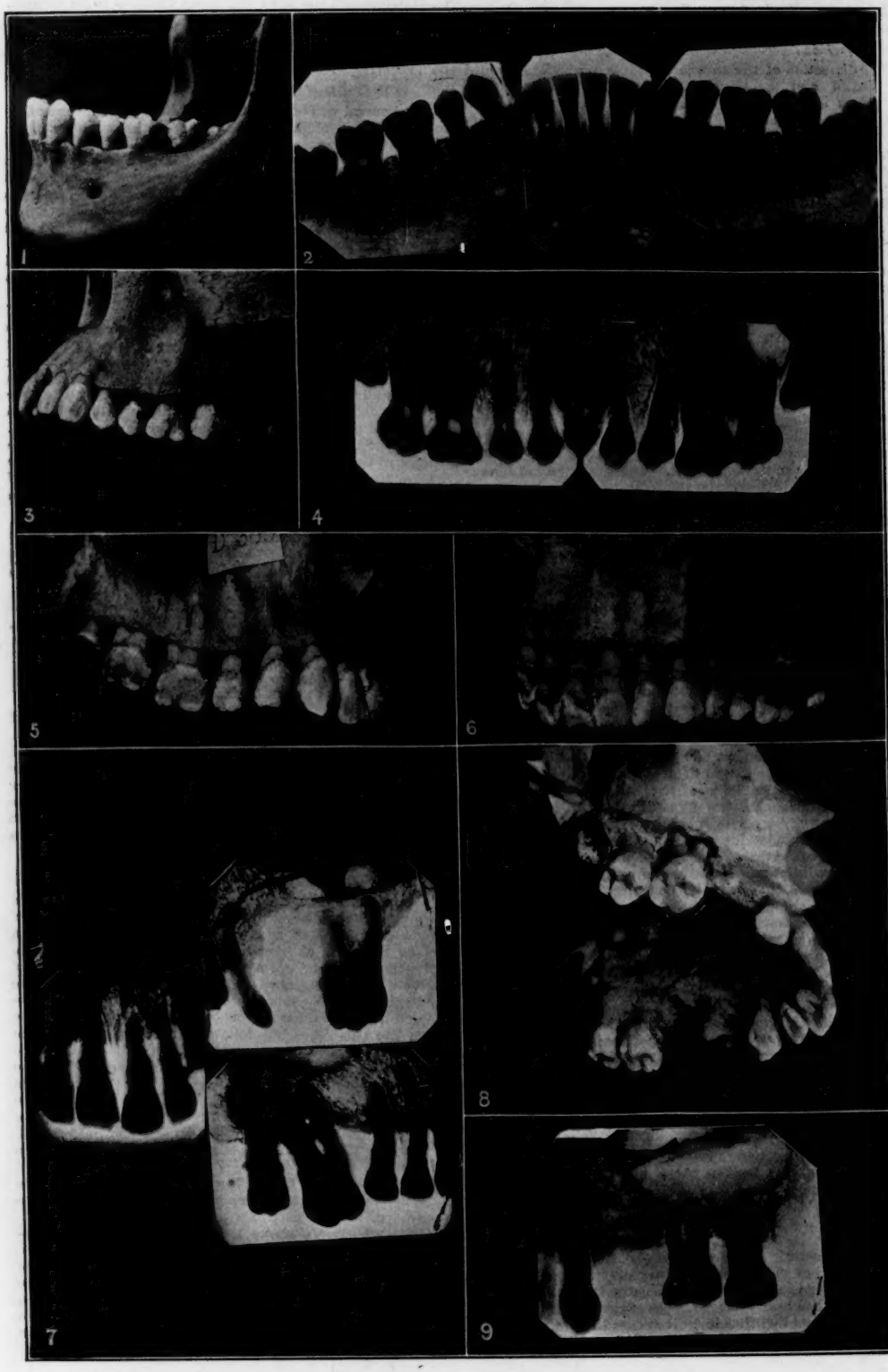
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Fig. 3, a specimen which, casually observed, appears to be normal. Fig. 4 shows that destruction of the bone has already commenced, as evidenced by the disappearance of the layer of dense tissue and the breach into the cancellous bone.

As the destruction of the bone advances the outer and inner plates of the alveolar process become involved, but the loss of tissue as a rule is greater between the teeth than on the buccal and palatal aspects. This stage is shown in Fig. 5. The points to be noted are: (1) the small destruction of bone around the front teeth compared with that around the premolars and molars; and (2) the greater loss of tissue around the molars compared to that around the premolars.

The specimen shown in Fig. 6, from a male aged 30 years, shows in an excellent way the morbid anatomy of an advanced case. The bone around the incisors has almost disappeared, and the molar teeth are uncovered to near their apices. Cup-like spaces around the teeth are evident, this appearance being due to the fact that the bone bordering the tooth disappears first. The appearance of the bone shows that there has been a marked rarefying osteitis. Nodular deposits of calculus are present on the teeth, and it will be observed that these are in the case of the incisors, canines, and premolars well away from the margin of the bone. The skiagram of this specimen is shown in Fig. 7. The cup-shaped absorption of the socket is well seen in the right first molar of the specimen illustrated in Fig. 8. Around the second molar the destruction of the bone has been of a more chronic type, the cup-shaped absorption being absent. The skiagram of these teeth (Fig. 9) shows a very distinct difference. Around the roots of the first molar there is a definite clear area and an absence of the dense layer which marks the outline of the normal socket. The bone around the tooth shows definite signs of rarefying osteitis. The bone bordering the roots of the second molar still retains the dense appearance, and indicates that rarefying process has not spread deep into the bone around this tooth.

A point worthy of notice is the difference in spread of the disease in the maxilla compared with that in the mandible, and this is especially marked in the region of the molars. This limitation of area of the bone destruction in the mandible is of interest, and is to be accounted for by the different nature of the osseous tissues in these two bones. In the maxilla the bone is of a much more cancellous character than that in the mandible. This difference in the spread of the disease in bones of different density is, as we shall subsequently see, well brought out in considering the disease in the lower animals.

In the final stage of the disease the teeth fall out owing to extreme loss of the surrounding bone. The series of specimens just described indicates that the bone lesion is a progressive rarefying osteitis which commences at the margin of the tooth socket and eventually destroys the bone until the tooth is shed owing to the loss of its attachments.

Clinical experience shows that the disease varies in its rapidity, and that in some individuals there is a definite reaction of the periosteum of the bone to the injury from the toxins. This is shown by a general thickening of the alveolar bone and, in a few cases, by the formation of nodulated masses simulating exostoses.

### *The Teeth.*

The teeth exhibit definite changes. The hard tissue shows absorption, and the periodontal membrane is thickened—indications of a chronic inflammatory process. Teeth removed from a series of cases are shown in Figs. 10, 11, 12. The teeth illustrated in Fig. 10 were from a man about 34 years of age, who was a mouth-breather and was suffering from mucous colitis. One year previously he had an attack of arthritis involving several of the large joints. The roots of the teeth showed signs of rapid absorption. The condition of the teeth may be taken as an index of the amount of rarefying osteitis. Let me explain this point more fully. Absorption of the hard tissues around the apex of the tooth indicates the presence of periodontitis. You cannot have periodontitis without pathological changes in the adjacent bony tissue. The more rapid the absorption of the tooth the more extensive will be the rarefying osteitis, and the greater the degree of rarefying osteitis the greater will be the liability to direct infection of the tissues.

The molar teeth frequently show large masses of adventitious tissue in the cleft between the roots, indicating extensive loss of osseous tissue at these points. The specimens shown in Fig. 11 are very good examples of the condition of the teeth from cases exhibiting deep pockets and profuse suppuration. For two years treatment by vaccines had been tried, but the patient, who was suffering from marked septic poisoning, continued to "run down hill." The removal of the affected teeth, 14 in number, brought about a rapid improvement in health.

An examination of teeth removed from certain cases of periodontal disease indicates that with the formation of a pocket around the tooth pathological changes commence around the apex of the tooth. This is well demonstrated in the teeth shown in Fig. 12. In this case there was a persistent gingivitis, but as far as could be ascertained neither the pockets nor the bone destruction were very extensive. The teeth on removal showed that around the apices there had been active trouble, as evidenced by the absorption of the tooth tissue which had occurred. This condition can be explained as follows. From the septic focus around the neck of the tooth absorption of toxins or organisms takes place through the periodontal membrane, probably by lymphatics. The material absorbed is held up, as it were, in the tissues around the apex. In other words, there is probably a natural defence at this part of the tooth to prevent the organisms and toxins passing into the general circulation. With the arrest of the toxins, &c., the tissues around the apex naturally react to injury; that is to say, the phenomena of inflammation appear. The formation of these septic foci around the apices of the teeth has, so far as I know, not been recognised, but it is clear that it is an important factor to be reckoned with in considering treatment.

## 2. THE DISEASE AS SEEN IN ANIMALS.

Periodontal disease is of frequent occurrence in horses, in cats and dogs, and in wild animals that have been kept in captivity. A study of the disease in these animals is most instructive, and throws considerable light on the etiology and pathology of this serious affection. For convenience we may consider this section under two headings: (*a*) wild animals and (*b*) domestic animals.

### (*a*) *Wild Animals.*

The odontological collection in the Museum of the Royal College of Surgeons of England contains a unique collection of skulls showing the disease in a wide range of animals. There are examples in rodents, marsupials, herbivora, monkeys, edentata, and the small and large carnivora. As an example, we may take a series of four specimens showing various stages of the disease in the kangaroo and its allies. An early stage is to be seen in a Bennett's wallaby (Macropus bennetti) (Fig. 13). In the maxilla the septa between the anterior teeth have been partially destroyed, and in the region of the first molars the bone shows signs of rarefying osteitis. A more advanced stage can be seen in the skull of a brush-tailed kangaroo (Petrogale penicellata) in the same collection. The disease here is more generally distributed, the mandibular teeth being more affected than in the preceding specimens. A slight deposit of calculus is present on the teeth. A skull of macropus (species unnamed) takes us a stage further. Here the bone has been extensively destroyed in the neighbourhood of the right maxillary third molar: the bone shows plenty of signs of rarefying osteitis, while in the mandible there is a marked thickening of the bone in connexion with the right first molar. Lastly, there is the left half of the skull and mandible of a kangaroo in which all the molars have been lost with the exception of one in the maxilla and one in the mandible. (Fig. 14.) The bone around both these has been extensively destroyed.

In the carnivora a similar gradational series can be traced, the point of interest being that the disease tends to spread more rapidly in the maxilla than the mandible, owing probably to the less dense character of the former bone. Among the suricates the mandible is more often affected than the maxilla; this is possibly to be accounted for by the fact that the shape and arrangement of the mandibular teeth favour food lodgment. In the museum there are several well-marked examples of the disease in the herbivora. An instructive specimen is shown

FIG. 10.

FIG. 11.

FIG. 12.

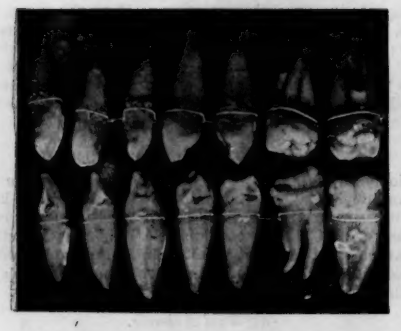


FIG. 13.

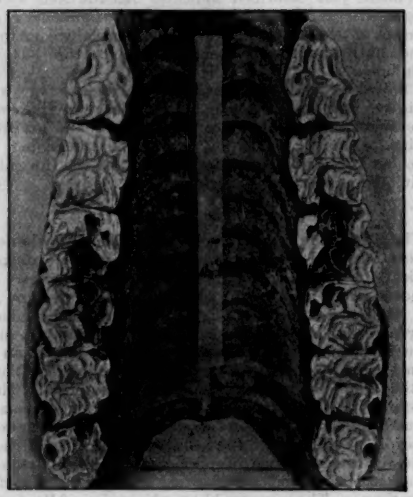
FIG. 14.

FIG. 15.

FIG. 16.

FIG. 17.

FIG. 18.



The maxillæ of a horse affected with caries prepared with the muco-periosteum in position. The initial lesion of the muco-periosteum is seen between the last two molars on the right-hand side of the picture and the second and third premolars on the left-hand side.

in Fig. 15. The alveolar process has been extensively destroyed, more especially in the neighbourhood of the first molars. The more rapid disappearance of the bone between the teeth compared with that in the buccal aspects is very marked. A point to be noted is the comparative absence of rarefying osteitis of the outer alveolar plates. The disease in the maxilla has not involved an extensive area of bone as noticed in studying the disease in the carnivora. This point is of interest when we consider the comparative density of the bone of the maxilla in the carnivora and herbivora. In the former the tissue is not so dense, and there is a greater proportion of cancellous bone compared to the herbivora. The degree of density of the bone would therefore seem to bear a relationship to the rapidity of spread of the disease. Another point of interest in the skull of this deer is that the destruction of tissue is most marked in the region bearing the main brunt of mastication.

*(b) Domestic Animals.*

Of domestic animals the cat, the dog, and the horse are most liable to be affected.

*Cats.*—In cats the disease is frequently met with in those pet animals whose diet, instead of consisting of raw meat, is rather drawn from that class of food which has a natural tendency to stick around the teeth. Cats of the lower class whose diet more nearly approaches their natural food are practically free from the disease. Mr. H. Gray, who is an authority on diseases of cats and dogs, informs me that the starting point of the periodontal trouble is the region of the maxillary fourth premolar. This tooth, owing to its shape, is liable to retain the food more easily than the anterior premolars, which are more sectional in type. The changes in the bone are similar to those already described in man and wild animals. In order to appreciate the extent of damage it will perhaps be useful to study the normal. In Fig. 16 are depicted the gums of a normal cat. The gingival margin shelves gradually away from the tooth and is of a normal pink colour. Contrast this with the mouth of the animal shown in Fig. 17. The margins of the gums are thickened, deeply congested, and before being prepared as a moist specimen a discharge could be freely expelled from the spaces around the teeth. This animal, although quite young, had already lost teeth from the disease.

*Dogs.*—From the dogs we are able to obtain some instructive data about the disease. In the short-muzzled breeds, such as the pug and the bull dog, the start of the disease is usually around the mandibular incisors, the maxillary incisors becoming subsequently involved. This fact is of interest when we remember that the lower teeth in these breeds are constantly exposed and escape to a great extent the cleansing action of the lip. It is easy to realise that food of a sticky type is almost certain to lodge about them. The upper incisors, although functionless as far as mastication is concerned, are to a certain degree cleansed by the play of the upper lip across, and this is probably the reason why they withstand longer than the lower teeth. Towards the back of the mouth a favourite starting point of the disease is the region of the second and third premolars. In the short-muzzled breeds these teeth are often placed obliquely to the line of the arch and are so crowded as to form excellent nooks for the lodgment of food. In the long-muzzled breeds the starting-point of the disease is usually the spaces between the premolars and molars on the palatine aspects. From these early beginnings the disease can be traced through all stages to the final loss of the teeth from complete destruction of the alveolar process.

*Horse.*—The most instructive lesson in the animal kingdom is to be found in the horse, for one can follow quite easily every stage from the initial lesion to the advanced suppurative condition. How prevalent the disease is in town horses may be gathered from the fact that out of 484 skulls examined in the recent state no less than 166, or rather more than one-third, showed more or less injury of the periodontal membrane, ranging from a slight destruction of the gingival margin to the most aggravated type of the disease. If the normal mouth of a horse is examined the muco-periosteum will be noticed to fit snugly into the interproximal spaces. The first sign of trouble is the destruction of the muco-periosteum at this place, with the result that a triangular space is formed. (Fig. 18.) In these spaces one may find a grain of corn, a little chaffed hay, or other material. At this stage the muco-periosteum appears to be only slightly inflamed. The space gradually increases in size and the periodontal membrane becomes more and more involved, and with the increase in the size of the spaces there is a greater accumulation of débris. The muco-periosteum becomes thickened, and there is a profuse muco-purulent discharge around the teeth, the breath being extremely offensive. With the advance of the trouble the teeth tend to separate and the food wedges between the teeth, the destruction of the bone continues, the teeth loosen, the infection spreads in the maxilla to the antrum, setting up suppuration, and in the mandible causing an abscess in the bone. The mandible is much more liable to attack than the maxilla, and as far as my observations go spaces are seen rather more between the anterior premolars than the molars, but this point must be noticed—that the spaces formed between the premolars do not seem to set up the same amount of trouble as those found towards the back of the mouth. In the maxilla, spaces seem to occur with the greater frequency towards the back of the series. As a result of the spaces the teeth become painful to pressure, and the function of mastication is interfered with, leading in many cases to marked irregular wear of the teeth. In some cases only one or two spaces are seen; in others huge gaps occur between nearly all the teeth. The fact that the spaces start on the buccal sides of the upper teeth, and that the bone destruction is greatest in the region where the force of mastication is most felt, is interesting.

The conclusions to be drawn from the examination of specimens in man and animals are the following:

1. That the bone lesion is a progressive rarefying osteitis commencing at the margin of the alveolar process.
2. That the disease is purely local in origin and has its immediate cause in the formation of stagnation areas around the teeth.
3. That the varying density of the bone influences the rate of destruction.

## ABDOMINAL PAIN IN INFANTS.[1]

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I HAVE diligently searched the literature of the subject, and, strange as it may seem, I cannot find a single author who has attempted to write a comprehensive account of abdominal pain in infants. There are many who, like myself, have written on the subject of abdominal pain in children, but, as far as infants are concerned, the subject has been discreetly avoided; since I began to write this paper I can appreciate the reason.

Difficult as it may be to determine whether an infant is crying because it is in pain, it is still more difficult to locate the seat of pain even in those cases in which there is strong presumptive evidence that pain is the exciting cause. There are, I know, certain people who claim to be able to distinguish between the cry of pain, the cry of temper, and the cry of hunger, but those who base a confident diagnosis on such an analysis of the acoustic properties of the cry are exceedingly liable to fall into error.

Although the cry of the infant eventually acquires certain emotional overtones, and later may be accompanied by certain characteristic facial expressions, during the early days of life, the vocalisations of the infant differ little in musical quality, no matter for what reason they may be evoked. Dr. Rousseau-Saint-Philippe's writing on "The Infant's Cry" states that the infant does not speak, but that it cries, and that it is the physician's business to learn the language. If this is true his business is very difficult.

It must be remembered that both pain and crying are protective reflexes, and that these reflexes are very easily elicited in infants, although they are not at first accompanied or associated by the emotional and muscular

[1] A paper read before the South-West London Medical Society on Feb. 2nd, 1913.

movements which can aid in the localisation of the cause. Although in later infancy babies may insert their fingers into their mouths if they have sore gums, or may pull their ears if they have earache, or may give some other focalising indications of the seat of pain, during the first few months of their existence their only method of reflex response is to cry—an often expressionless cry—to flex their legs and arms on the body, and to tighten up the abdominal muscles. The diagnostic significance of these actions as indicative of abdominal pain is almost valueless in early infancy. They suggest, indeed, that the infant is in pain, but are no more indicative of pain in the abdomen due to colic or wind than they are of pain in the buttocks due to a pin or a crease in the napkin. But inasmuch as abdominal pain is much the most frequent form of pain in young infants, it can readily be understood why when an infant draws up its legs and hardens its belly it is reported to have stomach-ache, and why the diagnosis is so often correct.

An infant, however, cries for other reasons than because it is in pain. Crying, as I have already mentioned, is a protective reflex. A baby cries in the first instance because by so doing it benefits itself—for example, by expanding the lungs, attracting attention, or obtaining oxygen. The cry, however, may soon become a habit, and may continue long after it has ceased to confer any advantage. Let me give an instance. An infant is put into a bath which is too hot—the protective reflex is aroused, and it cries. Ever afterwards it cries in the same way when it is put into its bath, no matter what be the temperature of the water. The reflex has become a habit, although it has lost its original significance. The more one studies the habits of infants the more one learns to appreciate the importance of "suggestion" in the determination of their actions. Infants far more often cry from suggestion than they do from pain. Pain, it may be, was an associated and integral part of the original reflex, evoked by some particular stimulus, but the same stimulus at a later date, although not sufficiently intense to cause pain, will elicit a cry as an associated reflex. It is most important to be able to differentiate between the cry which is really due to pain and the cry which is due to habit, or which is the emotional concomitant of a compound reflex. The psychological analysis of the reflex actions in infants and of their habits is most interesting and instructive. The infant, before the development of the cerebral centres which are concerned in the perception of sensations, is in almost exactly the same case as an adult in a cataleptic or deep hypnotic trance. That is to say, the lower centres respond to sensory impressions without the interference of independent judgment, and the subject of them can perform complicated and habitual acts without being conscious of the fact. I could give you a great number of instances in which by the application of the methods of psycho-analysis it has been possible to arrive at the causation of many seemingly inexplicable habits in infants. If you have any reason for believing that an infant cries, or behaves in any particular way, from habit, you must review the past history of the infant with the greatest care to discover if possible the event or stimulus which first stereotyped the reflex. The line of treatment you then adopt will be dependent on the nature of your discoveries.

In any particular case in which you suspect an abdominal causation of pain it is necessary not only to exclude habit, but also to eliminate other central causative factors of crying. I would remind you that syphilis is a cause of constant crying in infants, but the same symptom also occurs in babies of unstable nervous systems, and may be due to other causes. The neurotic element may be suspected when there are sleeplessness, restlessness, hyperæsthesia, photophobia, hyperacusis, rigidity of the limbs, dilatation of the pupils, increased tension of the fontanelle, and slowing of the pulse. Proceeding with the method of exclusion, we should next attempt to eliminate the most common causes of pain outside the abdomen. These are dentition, middle-ear trouble, and external irritants. It is the fashion to minimise the importance of dentition as a cause of disturbance in infancy; but it must be remembered that, although the majority of the troubles due to dentition occur immediately before the eruption of the tooth, other reflex or irradiated disturbances are occasioned by sudden and irregular spurts in the development of the teeth, and consequently such may occur at unexpected moments. Pain and crying due to dentition may be recognised by certain concomitant vasomotor phenomena. A patch, or patches, of redness on the cheeks is most suggestive; effusion of the eyes, corneal ulcer, running of the nose, and, above all, localised areas of hyperæsthesia, are almost pathognomonic. Chvostek's sign, or the facial phenomenon, is, in my experience, far more reliable as a sign of the approaching eruption of the canines than as a diagnostic evidence of rickets. Tenderness of the external ear and eczema at the back of the pinna are highly suggestive of troubles in connexion with the cutting of the molars. Then as regards the middle ear: in my experience distension of the tympanic cavity is very common in infants, and with this distension and bulging of the membrane there is almost invariably severe pain. The infant rolls its head about, or maybe bangs it on the pillow, pulls at its ears, or even thrusts its fingers into the meatus. There is usually a history of a previously existing cough, and physical evidence of nasopharyngeal catarrh and adenoids may be present—conditions which account for the occlusion of the Eustachian tube and the consequent distension of the drum of the ear. Under such conditions the chain of glands running along the posterior border of the sternomastoid muscle are probably enlarged or shotty; sometimes the anterior cervical glands are alone enlarged. The diagnosis can be confirmed by direct examination of the membrane with the otoscope.

If we can exclude habit, general nervous excitability, dentition, ear trouble, and obvious external causes of irritation, such as pins, wet napkins, and creases in the clothing, as causes of crying, I think we shall be justified in suspecting that the source of the pain is localised in the abdomen, by far the commonest seat of pain in infants under six months of age.

As I have already indicated, in quite young infants there is little to distinguish the pain due to abdominal disturbance from pain due to other causes. In this, as in other painful conditions, the legs will be drawn up, the arms flexed, and the hands probably clenched; the recti abdominales will be tense and the abdomen hard. There may be areas of hyperæsthesia, but they are difficult to locate, as the infant may be more or less tender all over. With abdominal pain, however, the baby usually appears to be comforted by gently rubbing the abdomen or when laid face downwards on a pillow. Heat applied to the abdomen usually gives relief.

The causes of abdominal pain in their approximate order of frequency are as follows: 1. Dysperistalsis of the intestines, including enterospasm caused by irritation, obstruction, or nervous incoördination. 2. Disturbances of the motor functions of the stomach, including pyloric spasm, hour-glass contraction, spasm of the cardiac sphincter from wind, food, or other causes. 3. Incoördination of the motor functions of the bladder, spasm of the sphincter vesicæ, &c. 4. Referred pain from the thoracic cavity, pneumonia, pleurisy, empyema, &c. 5. Renal colic. 6. Spinal caries and osteomyelitis. 7. Peritonitis, appendicitis, &c.

Dysperistalsis or incoördination of the motor functions of the intestine, and chiefly of the colon or rectum, is undoubtedly the commonest cause of pain in infants. Indeed, in infants under six months of age it is a more frequent cause of pain than all other causes put together. I imagine, therefore, that I shall not waste the time placed at my disposal if I enter somewhat fully into the physiology and pathology of this symptom.

It has been a matter of considerable controversy among physiologists, pathologists, and neurologists whether or no the intestines are provided with nerves capable of transmitting sensations of pain. The work of Dr. Henry Head and Dr. James Mackenzie on this subject is well known. It is argued that the intestines do not possess pain nerves, because clinical evidence proves that they can be cut, lacerated, or pulled without the patient experiencing any symptoms of pain. On the other hand, we know that colic, enterospasm, and other forms of incoördinated contractions of the muscles of the bowel can give rise to exceedingly painful sensations. These painful sensations have been ascribed by Professor Wilms and others to the dragging and pulling of the nerves in the mesenteric attachments and not to stimulation by nerve ending in the bowel wall itself. Explanations of the pain of colic on such grounds seem to me most irrational. The simple explanation given by Professor C. S. Sherrington appeals to me much more forcibly. His

explanation is that the sensory nerve endings in the intestines are to be regarded as highly specialised receptors, tuned or sensitised to receive one class of impressions only—namely, those which are of an essentially useful or protective nature. By a process of selective adaptation, both in the phylogenetic and in the ontogenetic sense, the appreciation of all other varieties of stimuli has been suppressed; those only are operative which are associated with dangers to the motor functions.

The motor functions of the intestines are so important to the well-being of the individual that it is obviously of paramount importance that there should be some nervous mechanism to regulate these functions. One essential element in such a mechanism must clearly be a highly sensitive series of receptors to keep the central nervous system in *rapport* with any event which interferes with the normal functions. Hence the sensory receptors turn a deaf ear to all other kinds of stimuli except those which are directly concerned with the motor function. It is through the instrumentality of these highly sensitised receptors that the infant acquires the power of conducting its intestinal motor functions with physiological efficiency. The moment any ill-coördinated contraction interferes with the smooth working of the motor mechanism, the infant's central nervous system is at once informed by the reception of painful impressions, and by a series of automatic and unconscious adjustments peace is restored. Thus slowly and with pain and tribulation the infant arrives at physiological perfection as far as the peristaltic functions of the bowel are concerned.

The mere fact that most of us are entirely unconscious of peristaltic movements which are constantly in operation, and which give us such excruciating pain when they are irregularly conducted, surely emphasises in a very marked degree the physiological efficiency of the method of peristaltic education during early infancy. When we contemplate the smoothness and regularity with which our intestines perform their daily functions we cannot grumble at the throes and pain we suffered in the early days of infancy. These pains are chiefly due to spasms of sphincters and to persistent localised contraction of the bowel musculature; the wave of contraction, instead of sweeping forward with the periodicity and regularity of a musical note, strikes disharmony into our system by coming to a sudden halt at some unexpected and inconvenient node.

Spasm of the pylorus and hour-glass contraction of the stomach are exceedingly common causes of abdominal pain in infants; they are reflexes which are distinctly protective in character, for they are clearly designed to shut off from the vulnerable intestinal tract indigestible or poisonous varieties of food which have gained entrance to the stomach. Abdominal pain due to pyloric spasm, or hour-glass contraction, can be recognised by the visible peristaltic waves which pass across the abdomen from left to right. These waves can be felt as well as seen, and the spasm of the pylorus can also at times reveal itself to the examining hand as a hard tumour in the region of the pylorus, which disappears as the spasm relaxes. Vomiting, visible waves of contraction, a pyloric tumour, constipation, and wasting are the classical symptoms of congenital hypertrophic pyloric stenosis, but they are also far more commonly the syndrome of a purely functional disturbance of the motor mechanism of the stomach—namely, spasm of the pyloric sphincter.

Spasm of the cardiac orifice of the stomach is in my opinion even more common than pyloric spasm; it gives rise to very considerable pain when air has been swallowed or generated in the stomach. Gripe waters and antispasmodics act by relieving this spasm and giving exit to the wind. It is quite as important that the stomach should learn to perform its duties in a business-like manner as that the intestines should acquire proficiency in their own particular motor functions. The receptors of the stomach are therefore highly sensitive to all those forms of stimuli which disturb its functions. Hyperacidity of the gastric contents, either from fermentation of the food or from over-activity of the acid-secreting glands, is a common cause of pyloric spasm. So is the ingestion of indigestible forms of food, especially during the first few days of life. Colostrum is the only food which should be allowed to enter the stomach during this period. Cow's milk, or even human milk, cannot be digested at this period, and therefore may induce spasm or incoördinated movements. The treatment of cases of pyloric spasm is simple and should consist in correcting hyperacidity, by adjusting the food to the digestive capacity, and in the exhibition of antispasmodics. Opium is the most valuable of all drugs, but it must be given carefully at first and then somewhat heroically. Brandy, chloric ether, and the bromides are also valuable, especially when combined with dill water, oil of cloves, or peppermint. If these simple expedients fail, the daily washing out of the stomach with a weak solution of milk of magnesia or carbonate of sodium will generally solve the difficulty.

As I have already indicated, dysperistalsis, or incoördinated contraction of the bowel musculature, is by far the most common cause of abdominal pain in infants; it may be regarded almost as a physiological fore-stage of normal and painless peristalsis. It is, however, very desirable that these necessary but painful experiences in the infant's educational curriculum should be as few and as short-lived as possible, for nothing is better calculated to disturb the development of the central nervous system than constant abdominal pain. It is, therefore, of considerable importance to study the best methods of teaching the bowel its natural functions and the best means of preventing the establishment of bad habits. I am convinced that one of the greatest safeguards against wrong methods of instruction is to leave Nature to work her own system. She has devised a careful method, and has provided in meconium a highly suitable material on which the bowel may practise its tyro efforts. In order that the musculature of the bowel may be excited to contract and perform its functions of peristalsis it is necessary that an adequate stimulus should be applied, neither too strong nor too weak, and this is of special importance during the first two or three days of life when habits are formed. Meconium supplies exactly the right sort of stimulus. It lubricates the mucous membrane and is sufficiently solid to form a very satisfactory motion, until such time as it is replaced by the ordinary constituents of an infant's stool.

I regret to say that it is a very frequent practice to sweep this valuable educational medium out of the bowel by a generous dose of castor oil. There can be no more irrational procedure. The castor oil is too strong a stimulus; it excites active peristalsis, and it deprives the bowel at one fell swoop of the didactic material which should last it for several days to come. The after-effects of this initial over-stimulation are reactionary fatigue and constipation, so that perhaps more doses of the purgative are administered before the incoming milk can supply the basis of a natural stool. In this way the natural rhythm and periodicity of the peristaltic function is interfered with from the very first, and the normal function is only subsequently established with much pain and crying on the part of the infant.

Abdominal pain due to the ill-coördinated movements of the bowel is not, as a rule, difficult to distinguish from other forms of abdominal disturbance. It is usually, though not always, accompanied by incriminating evidence in the stools, which may be too loose, too constipated, or otherwise abnormal. I cannot insist too strongly on the importance of examining an infant's motions carefully. They require to be well broken up and washed in a large quantity of water if their true character is to be revealed. When examined in this way they will often be found to contain a large quantity of inspissated mucus which has not been suspected. Those little white particles so often found in the stools of infants suffering from colicky pains, and which are usually described as undigested curds of milk, can be proved in this way to be composed of little balls of mucus and mucous membrane, which have been torn off the bowel wall and rolled up into the familiar forms as they are forced along the pain-racked lumen of the gut.

The pain connected with this form of peristalsis is usually intermittent; it often commences when the infant takes the breast or the bottle, for the movements of the stomach initiate the storm of waves which roll in disorder and confusion from one end of the intestine to the other. The violence of these pains often causes vomiting, and this vomiting has to be distinguished from vomiting of gastric origin. Vasomotor disturbances nearly always complicate the picture. The feet are cold, the face looks drawn and bloodless, sometimes blue round the mouth, and beads of sweat often stand out upon the forehead. Other reflex or irradiated nervous phenomena may occur. The twitching of

muscles and the drawing up of the legs are common symptoms, but general convulsions may also manifest themselves; these are usually inaccurately and inappropriately called "internal convulsions." Pain due to dysperistalsis is often relieved by pressure of the hand, by laying the infant on its stomach, or by hot applications to the belly. Massage along the axis of the colon often promotes the onward passage of a wave which has been fixed, as it were, in a localised spasm, and may then give instant relief.

If the points which I have already enumerated are remembered, no difficulty should be experienced in making a correct diagnosis, although we know well that such serious conditions of enterospasm as volvulus, intussusception, hernia, and constricting bands are occasionally mistaken for enterospasms of functional origin. Persistent and stercoraceous vomiting, a tumour palpable by the hand applied externally, or by the finger passed internally through the rectum, persistent constipation, or a muco-sanguineous discharge from the bowel, are diagnostic indications which can hardly be missed with the exercise of ordinary care.

A few weeks ago I saw an infant who was supposed to be suffering from an intussusception. The infant was, as a matter of fact, passing blood per anum, and was suffering from a severe attack of colitis. But colitis can hardly be mistaken for intussusception if the precaution is taken of making a digital examination of the abdomen per rectum.

Now, as regards the treatment of cases of abdominal pain due to dysperistalsis or enterospasm: excluding all those cases which have an organic basis, they may well be divided into the two classes—acute and chronic.

In acute cases energetic means of a nature we would not willingly repeat may be confidently applied. The chief desideratum is to relieve the spasm and keep the bowel at rest until the exciting cause has been removed. To effect these purposes there is probably no better treatment than the old-fashioned remedies, castor oil and opium. It is needless, I imagine, to remind you that care must be exercised in giving opium. I think that small and repeated doses, during which you can watch the effect, are much safer than one comparatively large dose. Tinctura camphoræ composita is a useful form in which to administer opium; one drop given every hour to an infant three months old is not likely to lead to much trouble. Brandy is always a useful antispasmodic, and may be given in 10–15 drop doses to an infant of the same age. All food should be suspended until the symptoms have subsided.

In the more chronic cases we are usually confronted with a vicious cycle of events; the nervous system is made irritable and explosive by the constant sensory impressions which reach it, and the dysperistalsis is encouraged by this very irritability of the nervous centres. It is important, therefore, to dull the excitability of the nerve cells by a nerve sedative such as bromide or opium, while the intestine should, of course, be relieved of all unduly powerful stimuli. The adjustment of the food is naturally one of the factors on which success most depends; cow's milk I regard as a powerful stimulus, especially in the unaltered state; completely peptonised it is less stimulating. Veal broth, whey, or even condensed milk, often help us to tide over temporary difficulties. The most valuable drug I know of in all these cases of irritability of the bowel is petroleum, and this best in the form of an emulsion. Petroleum soothes the bowel; it lubricates its surfaces, and it seems in some way to check decomposition.

Let me now pass on to another group of cases which certainly come under the same category of disturbed motor function. I mean those cases which are characterised by crying and evident pain whenever the infant passes urine. These cases are possibly more common in the case of boys than in that of girls, but in both they are common enough. I do not think, as a rule, the symptoms are dependent on acidity of the urine and irritation of the urethra as the scalding water passes over an irritable mucous membrane. The pain, I believe, is connected with incoördinated muscular contractions associated with the action of the sphincter vesicæ, and possibly with the muscles of the bladder itself; the pain is educational and protective. I only mention these cases because they are so common, and because they often give rise to a suspicion of stone in the bladder.

Renal calculi and concretions of urinary origin give rise to very severe symptoms in infants. The routine examination of the urine is the only means of avoiding mistakes in diagnosis. A short time ago I had under my charge a newly born infant. I took great care to avoid disturbing the peristaltic functions by unsuitable diet, but in spite of my care the infant evinced the clearest signs of abdominal pain. I could not believe that they were connected with the bowel functions, but for quite 24 hours I could not find any adequate explanation of the constant crying. At the end of that time the child began to pass large quantities of amorphous urates, which evidently gave the infant severe pain on their passage through the ureters. I have known several cases in which concretions have crystallised out of a concentrated urine, and I have found quite hard masses in the urethra which have necessitated removal by surgical interference. The pain of renal colic, due to obstruction of the ureters in the passage by calculi, is generally severe in infants; general convulsions often ensue, and there is nearly always evidence of some hyperæsthesia in the loins and back. The examination of the urine is, of course, the most valuable diagnostic guide under circumstances in which gravel is suspected.

Abdominal pain due to spinal disease, caries or osteomyelitis, often escapes diagnosis. The spine, however, should be examined as a matter of routine, and undue rigidity should always arouse suspicion. It is well to remember that lateral movements of the spine apparently cause more pain in spinal caries and osteomyelitis than forcible extension and flexion in the antero-posterior directions.

Pain due to appendicitis and peritonitis is not usually very severe in infants. Examination by way of the rectum is best calculated to reveal the existence of the conditions. Tuberculous peritonitis often runs a very chronic and unobtrusive course, and in my experience gives rise to very little pain.

The only way, after all, to appreciate the illusive symptoms of the impressionist baby is to live with it, or even to sleep with it. But pain must not be regarded as an unmixed evil; it is often a most valuable educational medium.

Harley-street, W.

# EXTRADURAL ABSCESS AT THE APEX OF THE PETROUS BONE.

## A COMPLICATION OF ACUTE INFLAMMATION OF THE MASTOID PROCESS; OPERATION; RECOVERY.

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AN extradural abscess is the most frequent complication of acute inflammation of the mastoid process, being due to direct extension of the infective process through the bone to the outer surface of the dura mater, and is almost invariably found in the region of the tegmen tympani or of the lateral sinus, the latter being most frequent. In this particular instance the situation of the abscess at the inner part of the anterior surface of the petrous bone is so rare that I venture to publish the case in detail. Failure to discover such an abscess invariably leads to death from meningitis, usually from rupture of the abscess through the dura mater into the subdural and subarachnoid spaces of the posterior intracranial fossa; and necropsies proving this can no doubt be recalled by the majority of those who have had an extensive experience in aural surgery.

The history and subsequent treatment of the case are as follows. During the first week of April, 1912, the patient, a girl, aged 18, while at school abroad, had an acute attack of earache on the left side, accompanied by some tenderness over the tip of the mastoid. Within a day or two the drum perforated with considerable relief of the pain, and as there were no serious symptoms the medical man in attendance sent her home to England. The patient first came to me on April 23rd, three weeks after the onset of the trouble. There was a history of intermittent attacks of neuralgia of the left side of the face and for the last two weeks pain in the head, but there was no sickness or giddiness. The patient looked ill, and was dull and languid. Examination of the ear showed marked bulging of the tympanic membrane in the upper posterior quadrant, with a small nipple-shaped perforation from which exuded considerable discharge. There was also some slight tenderness over

the tip of the mastoid. The patient was at once put into a nursing home. During the night the temperature was 100° F. and the pulse-rate 104.

Although the general condition pointed to the probability of the mastoid operation being indicated, paracentesis was first performed on April 25th. This seemed justifiable, as there was no pain over the body of the mastoid, and the drainage from the middle ear appeared to be insufficient. After paracentesis the temperature and pulse-rate at once became almost normal and the headaches and neuralgia disappeared. Within two days, however, there was further bulging of the membrane, with renewal of the symptoms. On April 29th the simple mastoid operation (Schwartze's) was performed. The extent of the disease was found to be much greater than had been anticipated. The cortex was dense; the antrum together with a large cell at the tip of the mastoid process were full of pus; and the bone was soft and hæmorrhagic, with dots of pus spreading through it, especially in the posterior group of cells surrounding the lateral sinus.

The operation was extensive, involving exposure of the outer wall of the lateral sinus for a considerable distance posteriorly, with complete removal of the mastoid cells. The opening into the aditus was enlarged, and at the end of the operation fluid could be syringed through it into the middle ear and out of the auditory canal. The wound cavity was lightly packed with gauze. Cultures taken from the secretion showed a pure growth of the pneumococcus.

The immediate result of the operation seemed satisfactory, the tympanic membrane healing within a week, and by the fourth week whispering could be heard at least 15 feet off. On the other hand, there were still occasional attacks of neuralgia on the same side, and on changing the dressings a drop or two of pus always oozed out from the depths of the wound just behind the aditus. Examination of the optic discs and of the general nervous system showed them to be normal.

By May 25th the symptoms were so slight and vague, and the amount of purulent discharge so minute, that I thought it permissible to allow the patient to return to the care of her medical attendant in the country, in the hope that change of air and tonics might do her more good than remaining in a nursing home, but he was warned that the case was not progressing normally, as by this time the purulent discharge ought to have ceased. On June 9th (six weeks after the operation) a letter was received from the medical attendant saying there was still some purulent discharge from the depths of the wound cavity which otherwise was quite healthy, and that the hearing seemed normal, but he added the following note: "Within a few days since she arrived she has been sick every morning when she gets up. It passes off, and she goes on all right for the rest of the day. She also has a good deal of neuralgia of the left side of the face. Her pulse is about 60 and her temperature subnormal. She is looking rather better, but is still listless and disinclined to do much."

On receipt of this I telegraphed for the patient to come to London. On June 10th, when I went to the nursing home to examine her, I found her lying curled up in bed on the opposite side, still complaining of slight pain over the affected side of the head, often referred to the eye, with attacks of nausea when she moved about. Examination showed the wound to be much smaller and to be healing well, but a drop of pus oozed from the depths of the wound on the removal of the gauze dressing. There was no nystagmus, and the reflexes and optic discs were normal. Next day the patient was anæsthetised and the wound carefully examined. Pus was found to exude drop by drop from a minute aperture in the tegmen tympani at its innermost margin, through which, however, a probe could not be inserted.

Further operation was then decided on in the expectation of finding an extradural abscess in the region of the tegmen tympani, but as the hearing was normal I promised the parents not to interfere with the tympanic cavity. For this reason the operation was limited to chiselling away the posterior wall of the auditory canal, with the exception of its innermost margin, together with the posterior part of the tegmen tympani. Unfortunately, the suspected extradural abscess could not be discovered even on raising up the dura mater from the underlying bone. The dura mater itself was slightly congested, but its surface was intact and pulsation was definite. The result of the operation was negative.

On June 13th (two days later) the patient complained of feeling sick and of pain in the left eye, but next day she was very much brighter, having no pain or vomiting, and retching less when moved. On dressing the ear no pus was seen to come from the wound cavity. On June 15th she seemed rather worse, being more drowsy, with a constant feeling of nausea, and she lay curled up in bed on the opposite side, having occasional periods of restlessness. It was obvious that there was still some undiscovered cause for these symptoms, and as there was nothing pointing to an intradural lesion it seemed certain that there was a collection of pus situated somewhere between the bone and the dura mater.

Mr. Charles Ballance and Dr. Henry Head were now called into consultation. Dr. Head confirmed that there was no optic neuritis, and that there were no symptoms pointing to an intradural lesion. Mr. Ballance also agreed with this opinion, and as pus was again oozing from the depths of the wound he supported my diagnosis of a deeply seated extradural abscess. Next day, June 16th (Mr. Ballance being present), I operated again, the remains of the posterior wall being freely removed, together with the outer wall of the attic, the malleus, and incus. The anterior portion of the tegmen tympani was then removed as far forward as possible, also the bone between the lateral sinus and semicircular canals, so as to expose the dura mater in the region of the posterior surface of the petrous bone. No extradural abscess could be discovered in this region. It was then decided to work forwards and to explore the inner part of the anterior surface of the petrous bone, even though it involved injury to the superior semicircular canal. The eminence formed by the superior semicircular canal was then cut away, which permitted the lifting up of the dura mater from the anterior surface of the petrous bone. As no pus could be seen, a blunt director was passed forwards downwards and inwards towards the apex of the petrous bone. After it had been inserted for nearly an inch over a drachm of thick yellow pus gushed out. Two fine rubber tubes were then inserted along the track of the director, and the abscess cavity flushed out with dilute hydrogen peroxide solution. The dura mater forming the roof of the abscess was somewhat thickened, and pulsation could not be felt. It was therefore incised for a space of half an inch, when some slightly turbid fluid escaped. A small rubber tube was then fixed into this opening by means of a suture, and the wound cavity lightly packed with gauze.

After the operation the patient was very restless and noisy, the pulse being 118 and the temperature 98°. Vomiting was incessant and was not relieved by a hypodermic injection of 1/6th grain of heroin. The patient lay curled up on the opposite side. As soon as she was conscious it was noticed that there was marked lateral nystagmus to the opposite side. The slightest movement caused the most intense giddiness and gave rise to the sensation that objects were going round in the opposite direction even when the eyes were closed. Next day the temperature was 99–99·4° and the pulse-rate 116–120. The patient lay motionless in bed, curled up in the same position, and objected to the slightest movement. Nystagmus was still intense and the vomiting so incessant as to prevent food being taken by the mouth, subcutaneous injections of ¼ grain of morphia in no way relieving it. Thirty-six hours after the operation collapse was extreme from general exhaustion. Improvement was obtained by means of saline injections and nutrient enemata. This treatment had to be continued for three days owing to the continued retching and vomiting. The patient still retained the same position of lying curled up in bed on the opposite side. The wound was dressed each day, when pus exuded freely from the deeply placed tubes.

By June 20th the general condition was improved, nystagmus being less intense when lying quietly, but there were still marked giddiness and nausea when trying to lift the head from the pillow; also the discharge from the tubes was becoming less. It was now possible to feed the patient by the mouth. She began to sleep better and to make spontaneous movements. On June 24th the tube was removed from the dura mater and the other drainage tubes were also removed, cleansed, and reinserted. The discharge had almost ceased. Next day there was a relapse, the patient being very depressed and inclined to be drowsy. There was

also a recurrence of neuralgia in the head and of pain in the eye on the same side. The nystagmus and giddiness were less, but there was still marked vomiting on movement. The optic discs were examined and found normal. Next day there was no discharge from the tubes but the above symptoms had increased in intensity.

On June 27th there was increasing pain in the left eye. The drainage tubes were removed and the dura mater then raised from the surface of the bone by means of a spatula and a blunt probe inserted along the track of the tubes. About half a drachm of thick yellow pus escaped. Next day the patient was much better, although her general condition varied in an extraordinary degree, at one time there being considerable sickness with increase of nystagmus and at another complete freedom from pain or giddiness. By July 3rd the head symptoms, including vomiting and giddiness, had disappeared, and except for general weakness the patient was quite comfortable and could take light food. The wound looked healthy and on removing the tubes some clear fluid escaped in a slight amount. The dura mater was now seen to pulsate, which had not hitherto been noticed. Next day the tubes were removed. On the 7th the patient was allowed up for one hour, in spite of which there was no giddiness. From this time onwards an uneventful recovery took place, although until about the end of July there was still a tendency to giddiness if the patient made rapid movements or over-exerted herself. When seen in January, 1913, the following note was made, "The wound has now completely healed. The ear is in good position, the only external deformity being some depression behind the mastoid region which is concealed by the hair." Ever since December, 1912, the patient has been leading a normal life and enjoying society, including many dances. The hearing on the affected side is extremely bad, the voice only being heard when close to the ear. The high tuning-forks are not heard, showing that the internal ear is involved, the unavoidable result of the last operation during which the superior semicircular canal was injured.

*Remarks.*—The chief difficulty in the treatment of the case was the vagueness of the symptoms. Although the parents from the first pointed out that their daughter was usually of a bright and merry disposition, yet her dull and listless manner at the time of the first consultation was no more than might have been expected in the circumstances. At the same time, her intermittent attacks of drowsiness were sufficiently noticeable to be remarked upon by the nurses, although this was not brought to my notice until a later date.

After the first operation the unilateral headaches and attacks of neuralgia in the eye were so slight and so intermittent as to be almost neglected. Nevertheless, although no definite lesion could be discovered, one felt rather uneasy with regard to the progress of the case, because of the knowledge that after the simple mastoid operation the patient should be practically well with regard to her general condition within 48 hours; whereas the continuance of headache, neuralgia, drowsiness, or other such symptoms is always suggestive of some further extra- or intradural complication. With this feeling, but at the same time with the hope that the general condition might be due to the patient's temperament, and a suppurating cell the cause of the slight discharge and reflex symptoms, the patient was permitted to leave the home without further operation.

At the third operation it was necessary to remove the eminence of the superior semicircular canal in order to give more room to explore the innermost part of the anterior surface of the petrous bone. Before this was done it was found impossible to separate the dura mater sufficiently from the petrous bone. It was no doubt due to this anatomical fact that the abscess remained so localised and did not discharge itself more freely. The constant occurrence of headaches and neuralgia of the eye on the same side was probably due to irritation of the first division of the fifth nerve within the skull from the proximity of the abscess. Stoddart Barr has noted similar symptoms together with paralysis of the sixth nerve in connexion with suppuration of the cells at the apex of the petrous bone,[1] but in this case the cells were normal.

There was no evidence to prove the exact origin of the abscess, whether it was due to direct infection through the mastoid process, or through the tympanic cavity itself during the period of acute suppuration; but the fact that the head symptoms dated from the beginning of the illness and disappeared when the abscess was evacuated, only to recur again when it re-formed owing to imperfect drainage, points to its development even before the first operation had been performed. The complete absence of labyrinthine deafness up to the time of the last operation excluded internal ear suppuration. A blood count, if taken, no doubt would have shown marked leucocytosis, and further confirmed the diagnosis of an abscess. The difficulty, however, was not the diagnosis, but the situation of the abscess. The unilateral headaches and neuralgic pains in the eye rightly suggested the abscess to be located at the inner part of the anterior surface of the petrous bone.

The failure to discover the abscess at the second operation was due to the fact that the operation was limited in extent because a promise had been given not to injure the tympanic cavity, and consequently sufficient bone could not be removed. The knowledge that a suppurative lesion was present made me hesitate to separate the dura mater too forcibly from the underlying bone owing to the risk of injuring the meninges; this only could be done after the more complete operation, which involved removal of the eminence of the superior semicircular canal.

Upper Wimpole-street, W.

[1] Brit. Med. Jour., Sept. 26th, 1908.

# PNEUMOCOCCAL ABSCESS OF THE LUNG IN CHILDREN.

BY L. E. BARRINGTON-WARD, M.B., CH.B. EDIN., F.R.C.S. ENG. & EDIN.,
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THREE varieties of acute abscess of the lung are met with in children. There is the abscess which arises from the presence of a foreign body in the bronchus; the multiple abscesses often following broncho-pneumonia and debilitating illnesses which are found scattered throughout the lung, which are due to a variety of organisms and which are not amenable to surgical interference; and the single abscess due to the pneumococcus with or without a preceding lobar pneumonia. It is as an instance of the last, the least common variety, that I narrate the following case.

A boy, aged 6 years, was admitted into the Hospital for Sick Children, Great Ormond-street, on Nov. 14th, 1911, under the care of Dr. A. E. Garrod. From the parents it was ascertained that he had been in excellent health until five weeks before admission. His illness began with what was described as a bilious attack. He became feverish, suffered from pain in the side, and developed a severe cough. He wasted rapidly and became pale and ill. The vomiting attacks became more frequent, the vomit being described as resembling phlegm. He had developed a well-marked lateral curve of the spine since the onset of the illness. His previous health had been good and the family history was unimportant.

On examination the most striking features were the pallor of his appearance and the curvature of the spine in the dorsal region with the convexity to the left. There was no dyspnœa, no cyanosis, no clubbing of the fingers, and no glandular enlargement. The tongue was furred and the breath was rather offensive. Perspiration was excessive. The temperature was 100·2° F., the pulse was 152, and the respirations were 32. The movement of the right side of the chest was deficient. The right base was dull on percussion. There was no Grocco's triangle on the left side. Over the dull area the breath sounds were tubular in the upper part, faint but audible in the lower. The vocal resonance was rather ægophonic. There was no cardiac displacement, the apex beat being in the fourth space in the left nipple line, and there was a systolic murmur to be heard in the pulmonary area. The abdomen was somewhat tumid. The liver and spleen were not palpable, and no mass could be felt. The blood count was as follows: hæmoglobin, 80 per cent.; red corpuscles, 4,406,000; and leucocytes, 21,500. Differential count: polymorphs, 84 per cent.; large mononuclears, 0·5 per cent.; large lymphocytes, 6 per cent.; small lymphocytes, 9 per cent.; and eosinophiles, 0·5 per cent. The diagnosis of empyema was made, but exploration in two interspaces over the dull area was negative. On Nov. 16th a radiogram of the chest was taken by Dr. W. Ironside Bruce. He reported: "To the right of the heart opacity is an area of evenly distributed increased opacity to be seen, obscuring the inner portion of the right diaphragm and possessing a sharply defined margin above and a diffuse one externally. It suggests a localised collection of fluid in the right pleural cavity towards the midline and base. Not much real displacement of heart, probably some rotation and apparent displacement on account of spinal curvature."

Despite the negative results of exploration, the blood count, the radiogram, and the appearance of the boy so strongly suggested the presence of pus that it was decided to open the pleural cavity to see the condition of affairs. On Nov. 18th chloroform was administered, and at Dr. Garrod's request I explored the right lung in numerous directions with the needle, but no pus could be detected. I therefore excised part of the eighth rib behind. The opening was just above the dome of the diaphragm. The collapsed lung was lying upwards and inwards away from the parietes. No adhesions of any kind were present, and

the pleura appeared everywhere quite normal. The oblique fissure was identified with the finger and probe, the lower lobe being dependent and separated from the middle lobe by a definite interval.

It then seemed as if the diagnosis of the presence of pus had been incorrect, but the lung felt so firm on palpation that I inserted a long needle through the postero-inferior border upwards and inwards and withdrew a syringeful of pus. It was impossible to approach the affected lobe satisfactorily from this position. The puncture was, therefore, sterilised with pure carbolic, and the wound was sewn up in layers and covered with a collodion dressing. Part of the sixth rib was then excised just internal to the scapula. Exploration of the lower lobe in a downward and inward direction for a distance of 1½ in. again revealed pus. Leaving the needle *in situ* an attempt was made to stitch the visceral and parietal pleura together with thick catgut. The stitches, however, tore out of the friable lung tissue owing to the pull of the lung from the parietes. Gauze packing was introduced around the site of the proposed opening. Sinus forceps were inserted along the track of the needle, and a cavity full of pus was opened and emptied by boring through the consolidated lung tissue. At this point the patient coughed up some blood-stained pus. There was a fair amount of hæmorrhage. The cavity was large and felt ragged, but owing to the depth from the surface and the grave condition of the patient its exact limits could not be ascertained. A soft split rubber-tube was inserted and the gauze was left undisturbed. The pus was greenish-yellow, odourless, and yielded a pure culture of the pneumococcus.

For the next few days the patient's condition was satisfactory, but five days after the operation he suddenly complained of acute pain in the side, and coughed up some ounces of pus and mucus. He was very distressed for a time. The gauze packing was removed on the sixth day, the pleural cavity being safely shut off in every direction. The drainage-tube was removed on the eighth day, and the lower wound was found to be soundly healed under the collodion. Subsequently convalescence, except for a transient attack of jaundice, was uneventful, and the wound through which the abscess was drained was healed in four weeks. A well-marked lateral curvature of the spine persisted.

This case presents, I think, certain features of interest. A lateral curvature of the spine is not uncommon in chronic pulmonary conditions, but it occurred rapidly in this patient, and it was on account of this curvature that the parents sought hospital advice. The diagnosis was always difficult. The physical signs could have been accounted for by an unresolved pneumonia with fibrosis of the lung, by an empyema of some duration, or by an abscess in the lung. The polymorph leucocytosis, the pallor of his appearance, the perspiration and emaciation with the irregular temperature were in favour of the presence of pus, and a diagnosis of empyema was made. Exploration of the chest with a needle was negative. A more thorough examination under an anæsthetic was also negative. It then seemed as though the deductions from the clinical signs were at fault and that the condition must be one of fibrosis, but Dr. Garrod decided that an opening into the pleural cavity should be made for more thorough examination. This was done, but the pleura was everywhere normal in appearance, and the lung on palpation felt peculiarly solid. It was as a last resort before closing the wound that a needle was passed into the lung itself and made the diagnosis.

The question then arose whether this collection was intrapulmonary or extrapulmonary—an encysted empyema. If an encysted empyema it could only be a large one arising in connexion with the mediastinal pleura and bulging outwards nto the lower lobe. The interlobular fissure was demonstrated to be free from adhesions; the diaphragmatic pleura was seen to be unaffected; and it was necessary to bore through the lung itself to reach the pus. The coughing up of pus during the manipulations and again some days later, taken with the situation of the abscess, convinced me that this was a true intrapulmonary collection.

It is interesting to consider the radiogram in the light of what was found at the operation. Dr. Ironside Bruce reported that it suggested a localised collection of fluid in the right pleural cavity towards the mid-line and base. This was exactly the situation of the abscess. The failure to find pus on exploring with a needle must have been due to the depth of the abscess from the surface. It is an indication that too much stress should not be laid on a negative result if the general condition strongly suggests otherwise. Most writers on the subject have remarked that the exploring needle in cases of abscess may not be of assistance in arriving at a positive diagnosis. It is safer if there are reasonable grounds for suspecting the presence of pus to open the chest and examine the lung directly.

With regard to the treatment it is generally advised that the operation should be performed in two stages: at the first packing is introduced to create adhesions between the visceral and parietal pleura, and at the second the abscess is opened and drained. In this case the toxæmic condition of the patient demanded that relief should be given without delay, and happily no ill-effects resulted from the immediate opening of the abscess.

Acute pneumococcal abscess of the lung in children appears to be rather rare, and most of the works on the diseases of children hardly notice it. The literature is scanty, and those cases which have been reported have usually been the successful cases. I believe that an examination of post-mortem records would bring to light many more cases. Eisendrath[1] in 1901 collected 25 reported cases of acute abscess of the lung following pneumonia, and of these nine were in children under the age of 12 years. All these recovered after operation. Holt[2] has seen three cases, one at necropsy and two after successful operation. Hilton[3] estimates the mortality at 50 per cent. in a review of 15 cases, but in these the age was not stated. The post-mortem records of the Hospital for Sick Children, Great Ormond-street, contain six cases only of pneumococcal abscess of the lung. Four of these cases had an empyema also. Four cases were operated on, but in only one of these was the underlying abscess detected. In four cases a diagnosis of empyema was made. In the remaining two the abscess came as a post-mortem surprise.

The pathological appearances did not vary greatly. In one case the pleura was unaffected; in the others the pleural cavity was either obliterated by adhesions or distended with clear or purulent fluid. In three cases there was a definite natural communication between the abscess and the pleural cavity. The right lower lobe was affected in three instances, the left lower in two, and the right upper in one. The size of the abscess cavity varied from a small excavation 1 inch in diameter to a large necrotic sac which had replaced the entire lobe. The larger cavities were divided by septa which contained the subdivisions of the bronchi. In only one case was there a communication between the abscess and a bronchus. In each case where an empyema was present the evidence seemed to show that the abscess was primary. Considerable destruction of lung tissue would be present while the empyema would appear to be of fairly recent origin.

The age of the children is noticeable—four were one year and under, one was 3½, and the oldest was 6 years of age.

I think it must be conceded that pneumococcal abscess formation is a possible mode of termination of a lobar pneumonia. The origin of this type of abscess appears to be in a patch of pneumonia, which instead of resolving after consolidation becomes the seat of pus formation. In fact, the pneumococcus takes on an action which is common to it in other parts of the body, but is rare in the lung itself. Possibly the age and resistance have a bearing on this point. Guinon[4] describes the case of a boy of 4 who succumbed to a pneumococcal abscess of the lung not recognised before necropsy, and suggests the name of "hépatisation grise suppurée" for the process. It is quite possible that many empyemata have an origin in a small pneumococcal abscess of the lung which is not recognised at operation and which either cures itself by discharging into the empyema cavity or into a bronchus, or is sufficiently small to be absorbed. I am very much indebted to Dr. A. E. Garrod for allowing me to operate on and publish this case.

Harley-street, W.

[1] Philadelphia Medical Journal, vol. viii., p. 787.
[2] Archives of Pediatrics, January, 1904.
[3] Annals of Surgery, 1907, vol. xlvi., p. 405.
[4] Guinon: Bulletin de la Société de Pédiatrie de Paris, 1911, xiii., 294.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN: UNIVERSITY OF LONDON.—Mr. F. D. Acland, M.P., has accepted the chairmanship of the council. The Dr. Edith Pechey Phipson post-graduate scholarship, of the value of £40 for one, two, or three years, will be awarded in June. Applications must be sent by May 31st to the secretary, from whom all particulars can be obtained. Entrance scholarships of the value of £60 for three or five years, £20 for four years, and £30 will be awarded on the result of an examination to be held on July 22nd and following days. All particulars can be obtained from the secretary. The Agnes Guthrie bursary for dental students of the value of £60 will be awarded in September.

A CASE OF

# PERIOSTEAL SARCOMA OF THE FIBULA WITH UNUSUALLY RAPID THOUGH TYPICAL COMPLICATIONS.

BY F. J. WADHAM, M.R.C.S. ENG., L.R.C.P. LOND.,
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AND
E. L. HORSBURGH, M.B., B.S. LOND.,
HOUSE SURGEON TO THE HOSPITAL.

THE patient, a girl, aged 20, was first admitted to hospital on August 6th, 1912, with a history of pain and slight swelling in the left knee of three months' duration. Up to that time she had always enjoyed excellent health and had followed her occupation of housemaid without difficulty. There was no history of injury or loss of weight. Examination revealed a swelling of about the size of a hen's egg over the upper end of the left tibia. It was hot and tender to the touch. It was firmly fixed and non-fluctuant. No eggshell crackling was obtained. The head of the bone was not apparently expanded. X rays showed the head of the fibula enlarged with broken outline. Spicules of bone were seen in the middle of the growth. A diagnosis of periosteal sarcoma was made. On August 8th a flap amputation in the middle of the thigh was performed. The growth was examined microscopically, and the following report was furnished by the pathologist: "This is a malignant growth, having the structure of a sarcoma. It is composed of large round cells and spindle cells, and is infiltrating and destroying striped muscle. I conclude it is a periosteal growth."

The patient recovered from the operation extremely well and a primary union was obtained. She was, however, kept in the hospital for observation until Oct. 4th, when she left apparently free from recurrence. She presented herself next at the out-patient department on Nov. 26th, complaining of pain and stiffness in the left groin. Examination showed a firmly fixed, stony hard mass in the left iliac fossa. Masses were also felt in the saphenous ring and following the course of the femoral vein upwards. Recurrence was diagnosed, and the patient was readmitted, but no operation could be undertaken. The patient, beyond the pain in the groin, was very well, got about on crutches with ease, and had not lost any weight. As it was considered useless to detain her in hospital she was discharged on Dec. 8th, 1912.

On Dec. 19th the patient again presented herself at the out-patient department suffering from most urgent dyspnœa and cough. Examination showed the left chest to be immovable; absolute dulness front and back up to the clavicle. The heart apex beat was in the right nipple line and breath sounds were quite absent. Nothing abnormal was discovered in the right chest. Fluid was diagnosed, and the chest was aspirated below the angle of the scapula and two pints of sanguineous fluid were withdrawn. The symptoms were relieved. The displacement of the heart persisted; the apex beat was now half an inch internal to the right nipple line. The fluid gradually reaccumulated, and the patient's general condition became so bad that further aspiration was deemed inadvisable. She gradually sank and died at 8.30 A.M. on Dec. 30th.

*Necropsy.*—The thorax and abdomen were opened in the usual way. The left chest contained more than a gallon of blood-stained fluid. When the pleura was swabbed dry it was seen that the left lung was completely collapsed and full from apex to base of solid growth which cut like cartilage. The growth appeared to follow very closely the bronchial tree. The right lung was also studded throughout with recurrent nodules, the largest size being about that of a two-shilling piece. There was, however, a considerable amount of normal lung tissue, but there was no evidence of emphysema. The pleura on the left side was covered with hard growth, which was heaped up to the extent of quite half an inch from the serous lining. Scarcely an inch of the pleura was unaffected. The visceral pleura was affected on both sides, though chiefly on the left. The pleural surface of the diaphragm was covered throughout with growth, though here it was in places heaped up to quite an inch in height. The recurrence in the groin was then examined. There was a mass of stony, hard growth all round the saphenous vein, surrounding also the femoral vein, the external iliac vein, and some way up the inferior vena cava. The circumference of this recurrence all the way up was about the size of the closed adult fist. There was considerable œdema of the amputation stump in consequence of this.

The case is, we think, of interest: (1) in proving the intense malignancy of these tumours; (2) in the typical distribution of the metastatic deposits *viâ* the blood stream to the lungs; (3) from the complete lack of symptoms of recurrence till just at the end of the illness; (4) from the post-mortem examination, which showed an astounding amount of growth for the length of the history; and (5) from the intense rapidity of the sequelæ.

Isle of Wight.

A NOTE ON

# THE USE OF SUGAR IN HEART DISEASE.

BY STANLEY E. DENYER, C.M.G., M.D. CANTAB., F.R.C.S. ENG.

PHYSIOLOGISTS have experimentally proved the nutritive value of sugar upon heart muscle. It has been established clinically that it undoubtedly gives good results in some forms of heart disease. In other forms no benefit has been observed from its use. The only way to get a classification of the value of remedies is to put on record the cases we treat with those remedies, both the failures and the successes. The failures are apt to be unrecorded, as they do not cause so much interest as the successes, but they are quite as important for statistical purposes. From the few inquiries that I have made, cases with œdema, cases with anginal pain, and cases where cardiac disease is secondary to renal disease do not seem to be improved by it. In a case of general paralysis of the insane, where the pulse was failing, I tried sugar, but it had no effect. In the following case the effect was so marked that I feel sure the patient's life was saved by it. The clinical history is as follows.

The patient, aged 77 years, had an irregularity of the pulse for some years. On Nov. 8th, 1912, she had a bad heart attack, with rapid, irregular, feeble pulse, cyanosis, and attacks of paroxysmal breathing, which occurred about 5 or 6 A.M. There was no œdema at this time, nor at any time during the illness. I saw the patient at 7 A.M. and ordered inhalation of amyl nitrite, which gave temporary relief. This condition continued for some days, the patient steadily getting worse, in spite of digitalis, digitalin, strychnine, dry-cupping, leeching, and frequent inhalations of oxygen. She said that the dry-cupping gave a great sensation of ease in breathing, and the oxygen certainly did her a lot of good, but the improvement was only temporary. On the 14th the patient seemed to be dying; when seen at 11 P.M. it seemed doubtful if she would live through the night. Her relatives thought even worse of her and were firmly convinced that she was going to die, and an experienced nurse whom I had in charge of the case thought there was little hope. I ordered some lumps of ordinary white sugar to be given in milk, and added some syrup to her medicine, telling them to give her four ounces of sugar during the night. In the morning I found the patient very weak, but less cyanosed and with a stronger, slower pulse. Digitalis had been omitted as well as digitalin, as these had not any effect on the heart or pulse. Four ounces of sugar were ordered during the ensuing 12 hours, and after that it was continued in smaller quantities for some weeks. The patient made a slow but steady improvement, the breathing attacks getting less frequent and the pulse stronger and more regular. Her general weakness was very great and she gained strength only very slowly. By the end of February of this year she was able to go out into the garden for a few minutes, and to walk up and down stairs.

Hull.

# Medical Societies.

## ROYAL SOCIETY OF MEDICINE.

### SPECIAL MEETING OF FELLOWS.

*Discussion on Alimentary Toxæmia.*

A SPECIAL meeting was held on April 14th, Sir FRANCIS H. CHAMPNEYS, the President, being in the chair.

Mr. J. B. LAWFORD said that during the last few years toxæmia due to disordered conditions of the alimentary tract had been widely accepted, not only as a possible, but as a probable, cause of certain forms of disease of the eye and its adnexa. Although proof was still wanting that the toxæmia and the ocular lesions were cause and effect, much evidence in support of this view was available in the records of carefully investigated cases. General agreement obtained that the ocular tissues most liable to suffer in toxæmia were the uveal tract and the corneo-sclera; some writers also included the ocular nervous apparatus and the eyelids as especially prone to involvement. The etiological relation of oral sepsis, especially when due to chronic gingivitis and pyorrhœa alveolaris, to inflammatory affections of the eye was almost certainly established. The ocular disease was most commonly a chronic iridocyclitis of a mildly plastic type, but choroiditis, usually localised and exudative, was also met with. Iritis in association with septic conditions of the tonsils had been recorded. The fact must not be overlooked that the large majority of individuals in whom pyorrhœa alveolaris and other varieties of oral sepsis were present did not suffer from irido-cyclitis, and also that irido-cyclitis with precisely similar characteristics was met with in patients whose mouths and teeth were above suspicion. Recurrent forms of episcleritis and sclero-keratitis had also been attributed with reasonable probability, to oral sepsis. These cases were, however, less common, and in his experience more doubtful in their etiology than those of the irido-cyclitis group. It was common knowledge that syphilis, rheumatism, gout, gonococcal infection, &c., had failed as a satisfactory explanation of many cases of ocular inflammation. In recent years enterogenous toxæmia had been invoked as the causal agent in these etiologically obscure cases. The occurrence of iritis, irido-cyclitis, and choroiditis in patients in whom there was evidence, especially from examination of the urine, of intestinal putrefaction, and in whom the above-mentioned causes could be excluded, led support to this hypothesis. Moreover, the improvement in the ocular lesions which often followed treatment of the intestinal derangement tended to confirm the diagnosis. That affections of the optic nerve might be caused by alimentary toxæmia had been suggested by some observers and discredited by others. Retro-ocular neuritis, the etiology of which was often very obscure, might be one of the results of auto-intoxication, and cases were on record which were less easily explained by any other theory. The possible etiological relation of auto-intoxication to infective processes in eyes recently operated upon was one deserving the closest attention of ophthalmic surgeons.

Dr. J. C. G. LEDINGHAM, whose paper will appear in a future issue of THE LANCET, said that his interest in the question was naturally confined to the bacteriological and biochemical evidence advanced by the school of Metchnikoff in support of their master's thesis, which asserts that the poisons elaborated by the micro-organisms of the intestinal tract, and particularly those harboured by the large intestine, are the most potent factors in the production of a long array of symptom-complexes loosely grouped under the term "auto-intoxication," and further that these same poisons are the essential causes of the sclerotic changes in the organs which accompany old age. Mr. Ledingham discussed the main bacteriological evidence which Metchnikoff and his pupils have brought forward during the past four years in support of the theory of intestinal intoxication. This evidence had been sought for in the following types of research: (1) an investigation of the flora of the large intestine or of the fæces with a view to the classification and identification of the various bacterial groups and their biochemical properties; (2) experiments on the toxic action of filtrates of special groups of these micro-organisms in animals; (3) analogous experiments with substances of definite chemical composition, especially indol; and (4) alteration in the intestinal flora as the result of food changes, constipation, and operations undertaken for the removal of the large intestine.

Dr. JAMES GALLOWAY spoke of the Cutaneous Indications of Alimentary Toxæmia. He said that the poisons capable of producing toxæmia resulting in these manifestations of disease seemed to come from two sources: first, those contained in the food itself or arising from the food by the action of ferments in the alimentary tract—these ferments might be those normally produced by the various accessory glands or might have some abnormal origin owing to disease or other causes; secondly, those resulting from fermentative or putrefactive processes due to the action of organisms which might be normal denizens of the alimentary tract or interlopers. Most of the external manifestations seemed to be more easily traceable to the first group of poisons than to the second, though this might very possibly be due to the fact that the noxious consequences of the action of many of these organisms, such as bacteria, were more difficult to appreciate and to trace to their original source. The outward manifestations grouped themselves easily in four main categories: 1. Those resulting from disturbances of the blood-vessels which disappeared leaving no permanent trace. 2. Morbid conditions in which an inflammatory lesion progressed to actual infiltration of the integuments with cellular elements and terminating in persisting deformity, such as dilatation of blood-vessels, atrophy, persistent dermatitis, ulceration, and scarring. 3. Purpura in its different forms—punctate, diffuse, and often associated with other hæmorrhagic manifestations. 4. Pigmentation due to increase or abnormal distribution of pigments closely related to those of the normal type, such as melanin, or in other cases to pigments more recently derived from hæmoglobin and due to hæmolysis resulting from the circulating intestinal toxins. 1. Of the first group, the various forms of simple or acute urticaria were by far the most common. The relationship between the ingestion of an unusual article of food, such as shell-fish or certain fruits, with the consequent outburst of urticaria, was so close as to leave no reasonable doubt that the poisonous material was contained in the ingested substance, or was very easily elaborated from it by the digestive ferments. A little more difficulty was felt when dealing with other varieties of the disease, such as the recurring type of urticaria, in which the lesions were usually not so severe or extensive as in the acute single attack, or the chronic variety, in which the lesions were usually diffusely scattered, though not large individually and left indurated lesions, giving rise to the term "papular urticaria." The relation between the various forms of erythema and alimentary toxæmia was more obscure. That such a relation did exist was borne out by the clinical experience of the causation of some of the simpler forms of erythematous eruption. The types of erythema exudativum in which, in addition to dilatation of the capillaries, escape of the contents of the vessels occurred into the tissues—either the blood serum or the blood cells—were by far less common than the simple erythemas. They were less likely, therefore, to observe the association between eruptions of erythema exudativum and affections of the alimentary tract, but that the relationship did exist in many cases was more than probable. The general impression given by clinical observation of this group of external manifestations was that the urticarial type was more frequently produced by the direct absorption of noxious ingesta or as a consequence of the more simple chemical changes in foods occurring in the upper portion of the alimentary tract from the action of the natural alimentary ferments; while eruptions of erythematous nature more frequently arose from affections of the intestines, especially the large intestine, in which the terminal processes of digestion took place, the poisonous materials involved being of a more subtle character, or perhaps due to the results of fermentations produced by bacteria or other organisms. The purpuric types of erythema seemed especially to indicate that the changes occurred in the colon or large intestine. 2. Closely allied to these lesions were certain others in which, in addition to the erythematous condition, tissue changes occurred. Of these the criterion was the appearance of new cellular elements—neither red

blood cells nor white blood cells, but newly formed cells, characteristic of various types of inflammatory infiltration. The type of this morbid state was the disease usually known as lupus erythematosus—a condition closely resembling in its distribution erythema multiforme, but terminating in some degree of destruction or atrophy. The etiology of this mysterious affection was by no means well understood, but its connexions with visceral disturbances should never be overlooked. A good deal of attention had been drawn to its peculiar relationship with certain forms of disease of the kidney. In other cases a poison arising from the alimentary tract might be suspected of being the cause. 3. The probability of alimentary toxæmia being the cause of certain cases of purpura had long been recognised clinically, for the connexion between the outburst of purpura and the disturbance of the alimentary canal was sometimes as close as the outburst of urticaria following the eating of some unusual article of food. Many purpuric lesions arose no doubt by a peculiar development or simply by intensification of the conditions already noted producing erythema. They formed, however, on account of their aspect so characteristic a group that they claimed special attention. One of the most remarkable conditions in which the connexion between poisoning from the alimentary tract and the outburst of purpura was shown was in certain stages of hepatic cirrhosis. Another variety of purpura presented small hæmorrhagic areas of petechial or punctiform lesions. The relationship between this condition and alimentary toxæmia was very distinctly shown in Henoch's purpura. The same type of purpura was very familiar in association with chronic inflammatory conditions of the colon, such as the varieties of colitis and dysentery. The attacks were especially prone to appear when other evidences of toxæmia or septicæmia became prominent. There were grounds for associating the type of purpura characterised by large areas of cutaneous hæmorrhage with absorption of poisons from the upper part of the alimentary tract. These poisons might arise from infected food materials or might be produced by the normal, or only slightly abnormal, processes of intestinal digestion. The petechial and punctiform types of purpura, on the other hand, appeared to occur as the result of the terminal digestive changes or abnormal fermentative processes occurring in the lower reaches of the bowel, possibly influenced by the micro-organisms present in the alimentary tract. 4. This group included the abnormalities of pigmentation. The unhealthy, dusky discolouration of the skin occurring in various forms of indigestion was a matter of ordinary observation. Much attention had been drawn in the course of this discussion to the discolouration occurring in the cases of disease to which the name of intestinal stasis had been applied. It was difficult to be quite sure of the exact nature of this pigmentation. It was partly due, no doubt, to disturbances of the circulation producing unusual conditions of opacity or translucency of the skin, but in other cases, no doubt, it was due to a definite increase in the amount of the pigments identical with, or nearly related to, the normal skin pigment. The cases, however, which were most striking were those in which the pigmentation was due to unusual or abnormal pigments. The first to which reference should be made was the hæmolytic, or "urobilin jaundice," well seen in the severer forms of anæmia, many of which were associated with septic disorders of the alimentary tract. The most striking of all the varieties of abnormal pigmentation was seen in the cases to which the name of "hæmochromatosis" was given. The relationship between some of these cases of hæmochromatosis with poisoning arising from the alimentary tract was very close. In this category might also be included the cases of discolouration due to alterations in the hæmoglobin to which the names of "methæmoglobinæmia" and "sulphæmoglobinæmia" had been applied. In many of these abnormal pigmentations the relationship to alimentary toxæmia was a close one—probably that of cause and effect.

Dr. A. MANTLE (Harrogate) said that large numbers of functional disorders of the alimentary canal found their way to Harrogate from all parts of the world, and amongst them many were seen with symptoms which he thought were rightly considered as due to absorption of toxins, the symptoms varying with the particular tissues affected. They must have a picture in their mind's eye of the mucous tract from the naso-pharynx to the rectum, for they were dealing with a mucous disorder, and an endeavour must be made to localise the source of the infection. The paramount importanceof a mouth being free from septic organisms was by no means fully recognised by the doctor or dentist. He therefore carefully examined the teeth and the mucous membrane of the mouth, tonsils, and nasopharynx, for careful investigations of apparently trivial infections of the mucous membrane of the nose and tonsils had explained the cause of many cases of rheumatoid arthritis. He next examined the stomach and inquired for any symptoms of gastritis due to oral sepsis, and examined for dilatation, knowing that stasis of its contents with fermentative changes led to auto-intoxication. The most common form of alimentary toxæmia was due to constipation with catarrhal inflammation of the colon, for the stasis of the fæcal contents of the colon was favourable to bacterial multiplication and possible absorption of toxins. Absorption, however, did not usually take place unless there was a weak mucosa possibly with abrasions or ulceration of the mucous membrane of the stomach or colon and a weak condition of the cells of the liver diminishing its antitoxic function. There was sometimes a more or less general infection of the mucous membranes, including the respiratory mucous membrane, and he had seen cases of asthma associated with intestinal toxæmia. Nervous symptoms were common, for the toxins had a special affinity for the nerve centres, hence constipation was frequently associated with neurasthenia. Neurasthenia might cause constipation. The vaso-motor centres were also affected, and this explained the unbalanced circulation—too little blood in the periphery and too much in the splanchnic area. There was also usually a great state of fatigue. The skin was usually sallow and there might be skin eruptions—e.g., eczema, psoriasis, urticaria, and pruritus, from the absorption of toxins. The joints might also be affected, and some cases of rheumatoid arthritis could be traced to an infection from the intestinal mucous membrane. In five cases he had seen purpura chiefly of the lower extremities. The treatment of alimentary toxæmia resolved itself into removing all sources of poisons from the nose and mouth as well as from the stomach and colon. Intestinal lavation with sulphur water had been very successful in his hands in the intestinal form. This was followed by an immersion bath of warm sulphur water to assist any arthritic or skin manifestation and open out the circulation, and he thought the brilliant operative measures they had heard advocated were seldom required.

Mr. J. G. TURNER, from observation of the results of treatment directed to dental sepsis only, was sure of the existence of an alimentary toxæmia due to dental sepsis. The components of dental sepsis and dental caries, pyorrhœa, tartar, artifact causes of sepsis, were all governed by the root-factor stagnation—stagnation of germs and soft, starchy, and sugary foods. It might be termed germ-carbohydrate stagnation. He gave the results of his observations, showing that both in man and the lower animals dental sepsis ran parallel with the occurrence of germ-carbohydrate stagnation, citing the occurrence of pyorrhœa and dental caries in South Sea Islanders and in captive monkeys. The islanders made extensive use of cocoa-nuts and captive monkeys were largely fed on bread. Jaws of the seventeenth and eighteenth centuries showed far less pyorrhœa than those of to-day. Fine ground flour was the determining factor. Dental sepsis, including the early stage of pyorrhœa, a marginal gingivitis, was as common in children as in adults. Dental sepsis was a factor for evil long before pus was an obtrusive symptom or the teeth tender, and was accompanied by fœtor which could be demonstrated by passing whisps of cotton wool between the teeth and smelling. Fœtor was as common in children as in adults. Carious teeth, ill-made fillings, ill-fitting crowns and bridges, and tooth-plates were storehouses for decomposing food and débris. The swallowing of putrefaction products played an important part in the production of alimentary toxæmia. In treatment the most radical was the safest means, in hospital practice especially so, because of the danger of artifact sepsis. Those who had not inquired would be astonished to find how many people lived comfortably with few or no teeth. He did not wish to be understood to say treatment short of extraction was useless. Most gratifying results could be obtained by local treatment if the patient could maintain the clean state so arrived at. Vaccines, he thought, would fail because of re-accumulation, and the advent of new germs or of a

variant of the old, and the impossibility of preventing putrefaction. Their effects might also be evanescent. For prevention he urged cleanliness and a return to bread made of coarse ground meal.

Dr. ARTHUR F. HERTZ examined the evidence on which a diagnosis of toxæmia due to chronic intestinal stasis could be made. It might be gathered from what some clinicians had said that it was possible to make a diagnosis from the symptoms alone, but even those which were regarded as most characteristic were by no means pathognomonic. It was not uncommon to be told by a patient, who was in the habit of taking large quantities of aperients for constipation, that the symptoms from which he suffered were better if he forgot to take his aperient and his bowels were not opened. They appeared to be due to the absorption of poisons from the abnormally fluid fæces in his colon, and were a result of the diarrhœa produced by his aperient and not of his constipation. In such cases he had often found that the bismuth reached the rectum in the normal time, although no aperient was taken, but the patients had become so convinced that their bowels would not act without help that they made no attempt to open them. The X rays afforded the only reliable means of determining whether a patient was suffering from chronic intestinal stasis and of ascertaining exactly what parts of the alimentary canal were at fault. It was, however, first necessary to determine whether large doses of bismuth salts interfered with the normal activity of the bowel, for it had rightly been pointed out that they were among the best drugs for combating certain forms of diarrhœa. Bismuth salts only influenced those cases of diarrhœa in which excess of sulphuretted hydrogen had developed as a result of abnormal putrefaction. This gas was a powerful stimulant to the intestinal movements, but it was rendered inert by combining with bismuth. He now used barium sulphate instead of bismuth oxychloride, as it did not combine with sulphuretted hydrogen, and under no circumstances affected the motility of the stomach or intestines. The first examination of a case of constipation by means of the X rays was made by him in 1907, after he had examined a considerable number of normal individuals. The figures that he and his collaborator had published of the average time taken for bismuth to reach different parts of the bowel in normal individuals had since been taken as a standard, and any case in which delay, when compared with this standard, had been observed had too often been diagnosed as an example of intestinal stasis. The error of this was obvious, when it was remembered that their figures represented the average of considerably divergent times. The so-called writhing of the duodenum, which had been described as occurring in cases of intestinal stasis as a result of a supposed duodenal kink, was nothing else than the normal peristalsis and segmentation rendered more clearly visible than usual by the great quantity of bismuth-containing chyme present. The skiagrams which had been published as examples of the dilated duodenum, which was stated to give rise to duodenal ulcer and to be due to obstruction by a duodenal kink, really represented a duodenum of normal size, which was exceptionally full as a result of posture, as they were told that before the skiagram was taken it was necessary for the patient to lie on his right side for two or three minutes, whilst in cases of duodenal ulcer the rapid evacuation of the stomach was an additional factor. In over 50 cases of uncomplicated duodenal ulcer he had not yet seen a dilated duodenum or a duodenal kink; the stomach was always hypertonic and emptied itself with unusual rapidity, the bismuth passing through the small intestine and reaching the colon with remarkable speed. The constipation which was generally present was not the cause of the ulceration, as in many cases it only developed after the symptoms of ulcer had appeared, and it almost invariably disappeared as soon as the ulcer healed—whether as a result of medical treatment or of the performance of a gastro-enterostomy. They had found that the bismuth-containing chyme reached the end of the ileum an hour or even longer before any appreciable quantity passed into the cæcum, and that the ileum was often still full four or more hours after the last traces of bismuth had left the stomach. Consequently an accumulation of chyme occurred in the last few inches of the ileum, where it remained and underwent digestion actually for a longer period than in the stomach. This was a result of the tonic contraction of the ileo-cæcal sphincter, the function of which was to prevent the passage of the contents of the ileum into the cæcum until sufficient time had elapsed for digestion and absorption of foodstuffs to be complete, as the chyme which reached the cæcum contained only traces of nutrient material in solution. Iliac stasis was thus a normal physiological condition of the utmost importance for adequate digestion. The normal iliac stasis was increased in all conditions, such as appendicitis, which led to the inhibition of the normal relaxation of the ileo-cæcal sphincter. The end of the ileum, as it rose from the pelvis to join the cæcum, bent in various directions; as the shadow on the screen was in one plane only, it was natural that it often appeared as if it formed one or more acute angles or kinks; it was obvious, therefore, that no conclusion of any sort could be made from skiagrams alone as to the presence or absence of kinks. By palpating the abdomen during the examination it was easy to demonstrate that these "kinks" were in a large proportion of cases only apparent. Although there could be no doubt that abnormal bands might occur in connexion with the terminal portion of the ilium, even though their existence could not always be demonstrated with the X rays, he did not feel convinced that they were of any importance, except in quite exceptional cases. The obstruction offered by a genuine iliac kink was hardly ever as great as that normally offered by the ileo-cæcal sphincter three inches farther on. In the skiagrams published to illustrate the iliac kink the lumen was not even always narrowed. When it was narrowed, there was nothing to show that the narrowing did not represent a division produced by the segmentation, which normally occurred with great activity in the end of the ileum. Nothing short of almost complete stenosis could lead to stasis of any importance, as the contents of the ileum were always so fluid that they could pass through a very narrow passage without difficulty. A true iliac kink, if it ever really led to iliac stasis, probably did so by inhibiting the relaxation of the ileo-cæcal sphincter. In normal individuals examined with the X rays the hepatic and splenic flexures almost invariably appeared to be acutely kinked. This again was the result of the shadow being cast in a single plane, as the limbs of the flexures belonging to the transverse colon were in front of those of the ascending and descending colon respectively, and therefore the flexures appeared to be acute, although they formed a wide angle when looked at from the side. He had seen a pelvic cæcum and a dropped transverse colon just as frequently in healthy individuals as in constipated patients, and he had never been able to convince himself, when a pelvic cæcum was associated with constipation, that there was any causal relationship between the two conditions, as in the majority of cases dyschezia without delay in the cæcum or in any other part of the colon was present. Ptosis of the transverse colon never led to kinking at the hepatic flexure, as this invariably dropped with it, but a sharp kink was occasionally produced at the splenic flexure, as the phreno-colic ligament was stronger than any other of the intestinal attachments. His investigations had shown that in a large majority of instances only part of the colon was affected in constipation. In nearly half of his cases the rectum was affected alone. This condition of dyschezia could be treated with success by re-educating the patient to defæcate by regular habits, abdominal exercises, and graduated enemata. In other cases the cæcum and ascending colon were alone affected; as soon as the bismuth got into the transverse colon, its passage to the rectum was normal in rate. Such patients generally obtained relief by diet, drugs, and massage applied regularly for a prolonged period to the affected part. In another group of cases the passage as far as the splenic flexure was normal in rate, but considerable difficulty was experienced in getting beyond this point. This was sometimes due to severe ptosis of the transverse colon, the splenic flexure remaining fixed, and sometimes to unexplained muscular weakness of the distal part of the transverse colon. Such cases could generally be relieved by the regular use of moderately large enemata without the aid of drugs or other treatment, with the exception of an abdominal support if ptosis was present. The comparatively rare cases in which the whole of the bowel was involved were generally amenable to treatment by diet, massage, and drugs. Only when the whole of the colon was involved and

thorough and prolonged medical treatment had proved completely ineffective was ileo-sigmoidostomy the rational treatment.

Mr. FRANK COLEMAN said that the odontological aspect of this subject was concerned chiefly in the sources of alimentary toxæmia, but it also had an important bearing on its consequences and treatment. The mouth acted as a source of alimentary toxæmia only in an indirect manner—viz., by the passage of its contents into the stomach and intestine, for little or no absorption took place by means of its own lining membrane. According to Dr. Andrewes' definition of alimentary toxæmia, which had been largely accepted in this discussion, "actual bacterial invasion of the blood" was excluded, and it was therefore assumed that the lining membrane of the alimentary canal remained intact and absorption took place by some process akin to osmosis, assisted no doubt by the physiological activity of the columnar cells. He mentioned this definition because in stating how the mouth might act as a source of alimentary toxæmia he referred to certain lesions for the purpose of describing how their secondary effects—viz., impairment of mastication and increase of the bacterial contents of the mouth—might play an important part in alimentary toxæmia. Granted this premise, the mouth formed a source of alimentary toxæmia in three ways: (1) Lesions of the buccal cavity, which largely fell into two classes—lesions of the teeth and lesions of the gums; (2) imperfect mastication, which might be due to inefficient teeth or want of teeth; and (3) mouth breathing. There was some overlapping of these classes; still, some such classification served a useful purpose in bringing the facts together. The first class might allow of direct bacterial invasion of the blood, but at the same time some of the bacteria or their toxins were shed into the mouth and swallowed. The pulp of a tooth, as long as its remained alive, could exert a defensive action against the invasion of micro-organisms, and if teeth could always be filled at this stage conservative dentistry would be a satisfactory branch of healing; but when once the pulp was involved by caries and its removal thereby necessitated, conservative work must be regarded as a compromise. The effect of diseased teeth had only within recent years been recognised as a fruitful source of alimentary toxæmia, so that many people still regarded the absence of discomfort in a tooth as tantamount to its harmlessness. Carious cavities in teeth that had not involved the pulp were a potential source of alimentary toxæmia, although their contained bacteria might have produced no inflammatory reaction on the tissues of the mouth, for these cavities acted as incubating chambers and greatly added to the bacterial content of the mouth, and consequently the number of bacteria swallowed. Many of the bacteria that were swallowed became disintegrated and set free intracellular toxins. If one considered the large area of infection that resulted from a suppurative periodontitis involving several tooth-sockets (roughly a square inch per socket), the correlating discharge from such an area, the favourable incubating chamber formed by a tooth-socket for the development of micro-organisms and their toxins, and the mechanical difficulties it offered for efficient drainage, was it to be denied that the mouth might be an important source of alimentary toxæmia? A gingivitis would sometimes directly infect the mucous glands of the cheek that lay opposed to the teeth. The second way in which the mouth might act as a source of toxæmia was by inefficient mastication. If mastication, and consequently insalivation, were imperfectly performed, food was swallowed before being thoroughly broken up, whilst the carbohydrate portion was only partly, if at all, converted into maltose. The effect of this were to throw more work on the stomach and small intestine and so impair digestion, besides which the bactericidal property of the gastric juice was rendered less effective on swallowed bacteria. The detergent effect of fibrous foodstuffs and the scouring action of the tongue and lips were correspondingly diminished by defective mastication, so that débris of food, mucus, and micro-organisms collected on and between the teeth. The artificial means of cleansing the mouth were insignificant in their value as compared with those brought about by efficient mastication. The third way in which the mouth might act as a source of alimentary toxæmia was brought about by mouth breathing and the inhalation of cold air, which might also be impure.

## CLINICAL SECTION.

*Exhibition of Clinical Cases.—Ulcerative Colitis Terminating Fatally.*

A MEETING of this section was held on April 11th, Sir W. WATSON CHEYNE, Vice-President, being in the chair.

Mr. E. M. CORNER and Dr. P. H. MITCHINER showed a case of Chronic Bone Disease. The patient, a girl, had been shown before the Clinical Society on Oct. 26th, 1906. The disease of the bone was then regarded as syphilitic. Later the bony enlargements, confined to one limb and the corresponding half of the pelvis, were shown to be enchondromata. Finally the disease was regarded as a series of developmental errors whose distribution suggested the idea that they were dependent on a dystrophy due to some nervous lesion, possibly congenital. Since 1906 the patient had broken her leg and came to the hospital because union was slow and unsatisfactory. The shortening of the limb in 1906 was 2½ in.; when shown it was 5¼ in., the greater part (3½ in.) being due to differences in the femurs.

Mr. CORNER also showed a case of Ossification in the Brachialis Anticus. The patient was a young man who fell on his hand a few months ago, fracturing the lower end of his radius. There was no complaint of any injury or pain in the neighbourhood of the elbow-joint. Later the patient discovered a painless lump in front of the elbow. A skiagram showed that this lump was due to some ossification in the brachialis anticus muscle. Presumably this was the result of a partial rupture of the muscle, done unconsciously at the same accident.

Mr. CORNER and Mr. C. V. ANDERSON showed a case of Recovery after Severe Electric Burns. The patient, a man aged 32, in the course of his work had an alternating current of 10,000 volts pass up his left arm and down his legs. He felt a shock and then became anæsthetic and unconscious. On rising from the ground he was dazed and unaware of the burns he had sustained. These were: 1. Of the fourth degree near the elbow; near the hand the burns were of the second and third degrees. It was noteworthy that the portion of the body making contact had slighter burns than portions of the body farther away. 2. The right foot was burned to the second and third degrees. 3. The left leg and foot were burned to the second and third degrees. The burns were widely distributed. They were sufficiently severe to require grafting. During convalescence signs gradually set in indicating a lesion of his left median nerve, that of the arm up which the current passed. These signs became more marked, and it was supposed that the nerve was burned or caught in the scar. It was exposed and found to have no lesion detectable by the naked eye. The signs and symptoms of this lesion increased, and then began to clear up, which they did completely. The pathological lesion might have been due to the passage in the nerve of an electric current in the opposite direction to the normal passage of impulses, or to some electrolytic change. No record of a similar condition was found.

Mr. C. H. FAGGE showed a case of Myeloma of the Head of the Tibia Seven Years after Enucleation. The patient, a girl aged 11, first noticed a swelling over the head of the left tibia about January, 1905. The pain made her limp, and in April, 1905, the tibia was explored on the suspicion of abscess or myeloma; nothing abnormal was found even after free exposure and drilling of the bone. Pain continued in spite of iodides, and swelling increased, particularly on the lateral aspect of the bone. X rays showed the upper end of the tibia expanded, and the original diagnosis of myeloma was reverted to; there was no albumosuria. A year after the first operation the bone was again exposed, and in separating off the periosteum a large cavity in the bone filled with maroon-coloured growth was entered. The opening was enlarged by cutting away the compact layer with a gouge, when the upper third of the bone was found expanded and hollowed out. Posteriorly over a large area the exploring finger came in contact with bare periosteum. The soft growth was carefully scraped away with a Volkmann's spoon, and the cavity washed out with saline and packed with gauze. Microscopically the growth showed general myxomatous degeneration, but in one part were mingled round and spindle cells with several myeloid cells scattered among them.

Mr. FAGGE also showed a case of Re-formation of the Fibula after Complete Removal of the Diaphysis for Acute

Infective Periostitis. A boy, aged 11, was admitted into Guy's Hospital in December, 1911, with an acute inflammatory swelling of the outer side of the right leg; the knee- and ankle-joints were not involved. Incision disclosed the shaft of the fibula lying bare in a large subperiosteal abscess; its lower limit was the lower epiphyseal line, and through this the bone was divided with a chisel, and the diaphysis separated by torsion; the cavity was packed. A second abscess over the outer side of the knee was incised; pus from both cavities contained staphylococcus aureus. Saline was infused subcutaneously into both axillæ, and two days later both areas of infusion become infected, and pneumonia developed at the right base. Two pectoral abscesses were opened and antistaphylococcal serum was given. Skiagrams taken at intervals since January, 1912, showed a gradually darkening shadow in the position of the fibula, which had become completely osseous except just below the upper epiphyseal line. Section of the removed diaphysis showed a pyogenic focus in the medulla, from which a sinus led through the compact layer.

Mr. LIONEL E. C. NORBURY showed a case of Re-formation of the Tibia after Resection of the Diaphysis for Chronic Osteomyelitis (? Syphilitic). The patient, a boy aged 10, was admitted to hospital on July 25th, 1912. There was a history of swelling of the left tibia for four years, and a previous history of eye trouble. There had been an ulcer on the right leg two years before. His father was said to have had a chancre, and his mother to have suffered from tuberculous ulcers of the leg and shoulder. On examination there were seen to be enlargement and bowing forward of the shaft of the left tibia. The thickening of the bone extended from just below the tibial tubercle to 2½ inches above the ankle-joint. Nodes were present on the tibia, one of which was tender. A skiagram showed diffuse sclerosis of bone, with several light areas, suggesting collections of pus. There was a small node on the right shin and a scar of an old ulcer on the right leg. The diagnosis lay between syphilis and tuberculosis. The Wassermann reaction was negative. He was treated with mercury and potassium iodide and also with mercurial inunctions. No local change occurred. In August subperiosteal resection of five inches of the shaft of the tibia was done. The periosteum was adherent to the bone in two places, and was button-holed at these spots. The openings were closed with catgut sutures. The periosteal sleeve was closed with interrupted catgut sutures. The wound healed by first intention. A plaster-of-Paris splint was adjusted 24 days after the operation, and re-applied several times since. A skiagram showed a considerable degree of re-formation of the shaft, which, however, was not yet complete. The microscopical report on a decalcified section of the bone removed was: "Chronic osteitis. No evidence of tubercle. Evidence of syphilis indefinite also, but there is one area showing a mild endarteritis."

Dr. F. PARKES WEBER showed a case of Ateleiosis in a man aged 45. The patient was an infantile dwarf, aged just 45, whose height without boots or shoes was 120·5 cm. (47½ inches) and who weighed 26·5 kilogrammes (58 3/10th lb.) without clothes. The case was shown before the society three years ago, and since then there had been little change.

Dr. WEBER also showed a case of Ateleiosis in a woman, aged 20, with a Slight Congenital Malformation of the Hands and Feet. The patient, of Polish Jewish descent, born in June, 1892, was small and infantile. Height, 135 cm.; weight, 34 kilogrammes. According to the mother's account she was born at full term without instrumental aid. She learned to talk and walk like other children. She was always small and delicate, but had hardly increased in height or general development since the age of 12. She had never menstruated. She was the eldest child of healthy parents. There seemed to have been no dwarfism, infantilism, or congenital malformation of hands and feet in any other members of the patient's family. When exhibited there was a slight congenital malformation of the hands and feet, consisting in decided relative shortness of the fourth finger of each hand and the fourth toe of each foot. Roentgen ray examination of the hands and feet showed this deformity to be due to shortness of the metacarpal and metartarsal bones. The lower jaw was relatively somewhat small and the chin receding. The teeth were fairly well developed. The thyroid gland seemed very small. The breasts were quite infantile, and there was complete absence of pubic and axillary hair. Although a small intravaginal portion of the cervix uteri was present, the body of the uterus seemed almost absent, and no ovaries could be felt. In proportion to the bodily growth the patient's mental development seemed to be fairly good, and she was able to earn a little money at machining. In regard to the osseous system, there was slight spinal scoliosis. Skiagrams showed abnormal persistence of epiphyseal cartilages. In those taken of the hands most of the epiphyses were seen to be bordered by a very deep shadow, as if by sclerosed bone. Skiagrams of the region of the sella turcica at the base of the skull seemed to show a rather small pituitary fossa with a long, thin posterior clinoid process stretched out in a forwards direction.

Mr. P. MAYNARD HEATH showed a case of Pseudo-hypertrophy of the Breast. The patient was a girl aged 16. In March, 1912, she noticed that the right breast was growing bigger than the left. It continued to grow until November, 1912, since when there had not been much increase. At no time had there been any pain. The breasts began to develop at the age of 14. Menstruation started at the age of 15 and had been slightly irregular, the intervals between the periods being sometimes five or six weeks. It was stated that the breast got slightly larger just before the period and decreased after it. The right breast was considerably larger than the left. There were some superficial enlarged veins, but the skin was normal. The whole breast tissue was lumpy and appeared to be divided up into more or less separate lobules. There was no tumour which could be separated from the breast tissue. The breast was not adherent to the chest wall. There were a few enlarged glands under cover of pectoralis major. The left breast was slightly lumpy. There were no glands in the left axilla. The girl's general health was said to be indifferent and she had a cough, but there were no signs of pulmonary tuberculosis, from which disease her eldest sister, aged 21, suffered. The breast had remained in the same condition for the last four months in spite of continuous support and pressure with Scott's dressing.

Mr. HEATH also showed a case of Congenital Cyst in the Parotid Region. The patient was a girl, aged 16. A swelling in front of the right ear was noticed soon after birth. When the patient's head was erect there was a distinct hollow in front of the tragus. At the bottom of this hollow was a hard nodule about the size of a millet seed, which was tender on pressure. The skin over the hollow was normal in appearance. When the patient bent her head downwards and to the right the hollow gradually filled up and was replaced by a rounded swelling, which projected about half an inch above the surface of the cheek. The skin over the swelling then showed a faint blue tinge. The swelling was cystic and could be made to disappear by pressure. It was not translucent, and no pulsation or impulse could be detected in it. There was no abnormality in the auricle or meatus.

Mr. LAWRIE H. MCGAVIN showed: 1. A labourer, aged 32, who on June 5th, 1912, fell a distance of 40 feet, and was admitted to Seamen's Hospital with simple fracture of both bones of the right leg. On June 11th Mr. McGavin operated and plated the fibula with a four-screw plate. On July 25th he was discharged apparently cured. On August 23rd the plate was removed, and on Sept. 24th he was discharged "relieved," but still with swelling of the right ankle. On Feb. 14th, 1913, he was readmitted with swelling of the left knee-joint. This swelling subsided under strapping with Scott's dressing, but had reappeared each time that he had been allowed to use the joint for walking. On Feb. 18th the knee-joint was washed out with 1 in 5000 perchloride solution. There was still some swelling of and fluid in the joint, and much grating on passive movement and slight grating in the right knee-joint also. X rays showed no bony change. 2. A man, aged 38, who had been admitted to the Seamen's Hospital on Nov. 11th, 1912, suffering from double hernia. On Nov. 14th Mr. McGavin operated under stovaine anæsthesia. Bassini's operation was done on both sides. On Feb. 21st he complained of pain in and swelling of the left calf, and the internal saphenous vein was felt to be thrombosed on the inner side of the left thigh. 3. A man aged 63. There was a swelling in the left submaxillary region which appeared to be a mixed tumour of the left submaxillary salivary gland. 4. A boy aged 16. A small abscess had been found in the substance of the psoas muscle. No carious bone was discovered. Cultivation yielded no organism of any

kind. Mr. McGavin raised the question as to whether it was a case of non-tuberculous psoas abscess.

Mr. P. LOCKHART MUMMERY read a short paper on a case of Ulcerative Colitis terminating fatally. The patient, a man aged 49, had diarrhœa and bleeding from the rectum for the last three years, but became worse during the last three months before his admission to the hospital. He also had vague abdominal pains, felt very weak and ill, and had lost weight to a considerable extent. The stools varied from eight to ten in 24 hours, and were usually blood-stained. He was admitted to St. Mark's Hospital on Jan. 25th this year. He then had a slight chronic cough, and on examination there were slight signs of tubercle of both apices. He had well-marked pyorrhœa alveolaris. He was very thin, tender over the colon, and was passing a considerable number of stools during the day containing much mucus and blood. A sigmoidoscope examination revealed extensive ulceration of the bowel as far up as could be seen. On Jan. 27th the abdomen was opened in the middle line and the colon thoroughly examined. It was found to be thickened, and numerous ulcers could be felt, but no other lesion. The appendix was brought out through a stab puncture in the right iliac fossa, and an appendicostomy opening established. From this time the bowel was washed out repeatedly with water and solutions of argyrol, 1 per cent. There was some improvement for a time, and the wounds healed by first intention. Soon, however, the skin round the appendicostomy opening became ulcerated, and a slow form of ulceration gradually progressed in this situation, and ate away a large portion of the skin, and exposed the muscles and fascia in the abdominal wall. Nothing that could be done would prevent this ulceration from spreading, and soon there was an ulcer as large as halt-a-crown round the opening. The patient's condition varied a good deal during the subsequent weeks. At the beginning of March he was certainly picking up, putting on flesh, and improving generally; but on March 5th he complained of pain in the chest, and on examination there was dulness at the left base. His pulse became rapid, signs of bronchial pneumonia set in, and he died. At the post-mortem examination there were well-marked bronchial pneumonia at both bases and scattered areas of consolidation. The liver, spleen, and kidneys were normal. On opening the peritoneal cavity there were no signs of chronic peritonitis, no adhesions, no enlarged glands; the whole of the ileum was perfectly normal. Very extensive ulceration was found throughout the colon, much more marked in the lower half. Over large areas the mucous membrane was entirely destroyed down to the elastic coat, with only a few islands of mucous membrane which stood up like polypi. Other sections showed well-marked, irregular-shaped ulcers of the most characteristic variety. In many parts of the specimen the appearance at first sight was that of multiple polypi of the bowel. This was, however, an artificial effect produced by the complete erosion of the mucous membrane, leaving small islands of mucosa, usually of a circular shape, and standing up exactly like polypi from the surrounding ulcerated area. It was noticeable that towards the cæcal end of the colon there was marked evidence of healing of many of the ulcers, no doubt due to the fact that this part of the colon, owing to the appendicostomy opening, was enabled to be kept much cleaner than the remainder; in fact, the ascending colon and cæcum showed very little ulceration, although there were numerous scars of healed ulcers. The ulcerated condition in many parts of the colon was so extreme that it would appear to be impossible for the patient to have recovered. As regards the bacteriology of the condition, owing to the large number of organisms usually found in the stools of these cases it was seldom possible to ascertain with any certainty the particular micro-organism which produced the lesion. In this case, however, Mr. Mummery thought that one could be fairly certain of the particular offending micro-organism, although unable to ascertain this by the ordinary culture methods. The nurse who was looking after this patient contracted a bad whitlow of the finger, and was for some days threatened with septicæmia. She was found to be suffering from a pure infection of staphylococcus aureus, and it seemed to him that there was every reason to suppose that this was the micro-organism causing the ulceration in the colon of the patient. Examination of the fæces for tubercle bacilli failed to produce evidence of the ulceration being tuberculous. This case was of interest chiefly for two reasons. It was one of the very few cases he had met with in which the patient had not recovered from ulcerative colitis after an appendicostomy. Had the operation been performed earlier he believed this patient would have recovered. As a rule such cases, even where there was very extensive ulceration, rapidly recovered when the bowel was kept washed out, and it was obvious that in this case there was a very marked tendency to healing, although the ulceration was too severe for it to be complete. The other reason why he had ventured to bring it forward was because the specimen in places so closely imitated one of multiple polypi of the colon, although its pathology was of quite a different nature. At first sight one might easily suppose that the specimen was one of multiple polypi unless one examined microscopic sections. The patient was never out of England, and the case was a typical instance of acute ulcerative colitis.

## WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

*Exhibition of Cases.*

A CLINICAL meeting of this society was held on April 4th, Dr. G. P. SHUTER, the President, being in the chair. The following cases were shown and discussed.

Dr. N. T. WHITEHEAD (for Dr. E. ARTHUR SAUNDERS): Osteo-arthritis in a girl aged 11 years. A slight injury to the left hip occurred last October. Limitation of movement gradually set in, and a recent investigation with X rays revealed lipping of the cartilage and the presence of osteophytes. No possible source of infection was found beyond the presence of two carious teeth.

Dr. WHITEHEAD (for Dr. J. M. BERNSTEIN): Stenosis of Pulmonary Artery. The patient, a man, complained of great shortness of breath associated with pain over the cardiac area, the latter only a recent symptom. There was some degree of cyanosis but no polycythæmia, as might have been expected. The heart was dilated, especially to the right of the sternum. There were no dilated veins in the neck, nor did the liver pulsate. A systolic thrill could be felt over the pulmonary valve; a systolic murmur was audible over the whole of the cardiac area, but more especially over the pulmonary valve.—Dr. SEYMOUR TAYLOR referred to the difficulties of diagnosis in cases of congenital heart defects. He would have expected in this case to have found evidence of the relief of the tension in the right ventricle along the line of least resistance—viz., through the tricuspid orifice—but he did not find any signs of this. He thought it possible the patient had aortic obstruction.

Mr. DONALD J. ARMOUR: A small boy who had received an unusual Injury to his Ulnar Nerve. About six or eight months ago he drove a splinter of glass into the palm of his hand. From the muscular wasting and paralysis it was clear that the deep branch of the ulnar nerve had been cut across just where it passed through the muscles of the hypothenar eminence in company with the deep branch of the ulnar artery. The superficial branch of the ulnar nerve had escaped, as shown by the fact that the inner side of the little and the adjacent side of the little and ring fingers were normal as regarded sensation. The muscles supplied by the deep branch of the ulnar—namely, the small muscles of the little finger, the inner two lumbricales, the interossei and the two adductors of the thumb—were completely wasted. As suture was out of the question Mr. Armour suggested excising the scar, in which no doubt the proximal end of the nerve was embedded, in order to give the nerve a better chance of regenerating.—Mr. H. TYRRELL GRAY mentioned a method, adopted in America, of scoring with a small tenotome the scar tissue in lines parallel with the nerve fibres with the object of opening up fresh paths for the regeneration of the divided fibres.—Mr. ARMOUR did not think it applicable to this case.

Mr. SYDNEY G. MACDONALD: Perineal Testicle in a man aged 28. The testicle was small and the scrotum on the same side imperfectly developed. The patient himself was well developed, cycled constantly, and suffered none of the usual inconveniences. With regard to treatment it was not proposed to interfere at present, but if any operation became necessary excision was preferable to replacement in the

scrotum of a functionless organ. Testicular neoplasms were more common in imperfectly descended than in normally situated organs, probably because they were imperfectly developed.

Dr. T. C. STOREY (for Dr. H. J. DAVIS): 1. Epithelioma of Auricle in a man aged 72. The growth commenced as a small lump on the outer border of the pinna, and finally broke and formed an ulcer. The auricle was removed, and the considerable raw area resulting skinned over with remarkable rapidity. The rarity of the condition was pointed out. 2. Thyrotomy for Epithelioma of Larynx. The patient, a man aged 45, was recently admitted to hospital suffering from pain on swallowing and difficulty in breathing. The growth involved the left aryteno-epiglottidean fold, obscuring the view of the left cord. There was no apparent involvement of the tongue or epiglottis, but there was an enlarged gland in front of the left sterno-mastoid. A low tracheotomy having been performed, the growth was removed after dividing the thyroid cartilage in the middle line. The cartilage was then allowed to fall in place and was not sutured. On the sixth day the patient was allowed up and about the ward as a precaution against broncho-pneumonia, the most frequent cause of death after this operation. It was proposed to deal with the glands in a week's time unless signs of recurrence took place.

Mr. OSWALD L. ADDISON: 1. Genu Valgum and Dislocation of Patella in a stout middle-aged woman under treatment for osteo-arthritis, both legs being affected. The left patella lay on the front of the external condyle of the femur, the normal patellar surface of the femur being uncovered; on the right side the displacement was less extreme. The patient was unaware of the deformity, which had given rise to no trouble until the last few months, when she began to have severe pain in the left knee. 2. Sporotrichosis in a boy aged 11 years. About the ankle on both sides of the tendo Achillis and spreading for some distance up the leg were numerous spongy-looking granulomatous masses which exuded a small amount of pus, and several sinuses were also present in the neighbourhood. On the back of the calf was a thin, broad, slightly pigmented scar, the result of an old operation, and similar scars were present on the front of the thigh and groin. Just above the knee there were two or three indolent cutaneous swellings which were gradually becoming softer. The movements of the ankle-joint were free, and in spite of the large amount of scarring of the leg the calf muscles were very little if at all contracted. The condition had followed an injury to the right ankle. A painless swelling developed, broke down in about six weeks, and continued to discharge for nearly a year before the patient presented himself at hospital. At this time the condition was thought to be tuberculous, but in spite of treatment gradually spread upwards. The patient's health was unaffected, the condition quite painless, and with the exception of the primary seat of infection and an enlargement of the femoral glands ending in their removal, the disease did not spread beyond the skin and subcutaneous tissues. Numerous pathological investigations had been made, until quite recently Dr. D. N. Nabarro found some mycelial threads and clusters of spores in a film preparation from a scraping, and came to the conclusion that the boy was suffering from one of the varieties of sporotrichosis. Cultural experiments had so far failed, and in order to be successful it was apparently necessary to obtain some pus from an unbroken abscess; this at present had not been possible. Mr. Addison referred to a full account of sporotrichosis by Professor de Beurmann,[1] and also mentioned that two cases of the disease affecting the skin had been published in this country by Dr. Norman H. Walker[2] and by Dr. H. G. Adamson.[3]—In reply to the PRESIDENT, Mr. Addison said the disease in this case had apparently spread by the subcutaneous tissues, but Dr. Beurmann described a form which chiefly affected the lymphatics and glands. The gummata softened and completely liquefied before the skin gave way, so as to lead to infection by secondary organisms. It was from one of these unbroken lesions that it was necessary to obtain pus in order to make satisfactory cultures.—Mr. T. JEFFERSON FAULDER referred those interested to a paper by Professor Ravogli, of Cincinnati, Ohio, read at the International Congress on Tuberculosis at Rome in 1912. The paper contained a very full account of the disease with a number of cases.

Mr. N. BISHOP HARMAN: 1. Exenteration of the Orbit and Partial Excision of Maxilla and Ethmoid for Rodent Ulcer. The patient, a woman aged 54, first noticed a small pimple on the right cheek just under the eyelid 17 years ago. It scabbed, and she treated it herself with various caustics whenever the lump reappeared. From 1905 X rays, zinc ions, and radium each appeared to benefit her for a time. When seen by him in 1911 with a view to operation she had lost the whole of the lower lid, and a rodent ulcer as big as a penny was fixed to the maxilla. An operation for removal of the growth was performed, and all seemed well until September, 1912, when there was recurrence in the orbit. A second extensive operation had then to be undertaken, with the result that the orbit, nose, and antrum were opened into one. The great cavity left gradually sank in a remarkable way, leaving the passage of the nose exposed to view in a striking manner. There had been no lack of treatment, but an earlier appeal to surgery would have left the patient with a sound face and two good eyes. 2. Excision of Lacrymal Sac in a young woman aged 19. Carious teeth had caused periostitis of the maxilla and consequent blockage of the lacrymal duct. When first seen she had had severe dacryocystitis for nine months. The sac was incised, scraped out, and drained. Eventually the whole lacrymal sac had to be removed, the bony duct scraped out, and the puncta destroyed in the manner described in a paper that appeared in the *West London Medical Journal*. The result was excellent. 3. A similar case in a young woman aged 20. There had been a septic mucocele for a month or two.—Mr. FAULDER congratulated Mr. Harman on the result of the operation in the first case, but pointed out that, as the sections of the growth contained cell nests and generally showed evidence of malignancy, it confirmed the well-recognised phenomenon of the transformation of rodent ulcer into epithelioma. He asked whether Mr. Harman had had any experience of an operation whereby the nasal duct was laid open within the nose by an intranasal incision and drainage established that way.—Mr. HARMAN replied that the cases that came before the ophthalmic surgeon were nearly always caused by blockage of the duct high up close to the sac. In these cases operation for exposure of the duct through the nose would not be effective, but the operation suggested seemed to be the right procedure when it was definitely ascertained the block was near the orifice of the duct.

[1] Brit. Med. Jour., August 10th, 1912.
[2] Ibid., July 1st, 1911.
[3] Proceedings of the Royal Society of Medicine, January, 1913. See also THE LANCET, March 11th, 1911, p. 669.

## UNITED SERVICES MEDICAL SOCIETY.

### *Duties of R.A.M.C. Officer with Infantry Battalion on Active Service.*

A MEETING of this society was held at the Royal Army Medical College on April 9th, Fleet-Surgeon P. W. BASSETT-SMITH, C.B., R.N., the President, being in the chair.

Major HOWARD ENSOR, D.S.O., R.A.M.C., read a paper on the Duties of an Officer of the Royal Army Medical Corps attached to an Infantry Battalion on Active Service against a Civilised Enemy. After considering the duties of a medical officer with a battalion during mobilisation, Major Ensor dealt thoroughly with the important questions arising as to work on the line of march and in camp. Referring to the duties in a standing camp, he insisted that a camp should be regarded as "standing" when the troops have been in occupation of it for 24 hours and no orders have been issued for them to move. After the expiration of this time, in the absence of orders for the battalion to move on, the site of the camp should be regarded as an area likely to be occupied by the unit for some considerable time, and the necessarily primitive system of sanitation prevailing when a battalion is bivouacking for the night only should be changed for the more elaborate one suitable for a standing camp. This will prevent the serious error of postponing the institution of sound sanitary measures in the expectation that orders may arrive for the troops to move almost immediately, a mistake that frequently leads to the men remaining under undesirable conditions for several days. The sanitary condition of a camp is, perhaps, the best criterion of the state of

discipline of the troops occupying it. A matter of great importance is the cleansing of bivouac areas before starting on the march next day, as the same area is likely to be occupied by other troops at an early date. While advocating the early transfer of the febrile cases to the field ambulance when the troops are on the march, Major Ensor is in favour of retaining men suffering from a moderate degree of fever with their unit, when in standing camp, for 48 hours, isolating them as far as possible in tents or shelters until it is clear that they are not likely to prove able to continue at work. It should be remembered that cases sent to the ambulance tend to be evacuated to the lines of communication and lost to their battalion. That portion of the paper dealing with the duties of the medical officer and the regimental medical establishment in action was of such importance that a summary cannot serve to do more than invite attention to the paper itself, on its publication in full, but it may be said that the lecturer recommends a very thorough training of the regimental bearers in the application of the first field dressing and is inclined to advocate their employment for this purpose and the protection of casualties by the erection of temporary cover, rather than for the carrying of wounded to the aid-posts, during an action. He even suggests that the battalion stretchers instead of being carried behind the companies by the bearers at the beginning of an action, should be carried on a cart under the care of one of the Royal Army Medical Corps detachment, and only brought into use when darkness or a lull in the fighting permits the safe clearing of the wounded from the area of operations. The important question of the best position for the medical officer to take up in action, whether in the firing line or at some point farther back, was also fully considered both by the lecturer and those who spoke after him.

The following officers took part in the discussion: Surgeon-General W. H. MACNAMARA, C.B., A.M.S., Colonel BRUCE M. SKINNER, M.V.O., A.M.S., Colonel J. HARPER, A.M.S. (T.), Colonel J. M. CADELL, I.M.S., Lieutenant-Colonel Russell, Lieutenant-Colonel C. H. BURTCHAELL, R.A.M.C., and Major E. B. WAGGETT, R.A.M.C. (T.).

## NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

### *Headache.*

A MEETING of this society was held on March 19th, Mr. W. G. LAWS, the President, being in the chair.

Mr. H. HERBERT opened a discussion on Headache from an Ocular and Nasal Point of View. He mentioned that the patients generally referred their headaches to their eyes, and complained of aching and redness of the eyes after work or headaches after witnessing cricket matches or attending theatres. These headaches were generally fairly regular and continuous, and not capricious. Among the causes might be mentioned ciliary spasms in hypermetropia, differences between the refraction of the two eyes, and a tendency to squint. He regretted that often these headaches were not cured after taking advice because patients sometimes omitted to wear glasses. In other cases where manifest defects had been corrected other defects became manifest later, and, again, when patients were neurasthenic, they got into the habit of having headaches, and sometimes not sufficient time was given to examination of the eyes.

Mr. H. B. TAWSE continued the discussion from a nasal point of view. Briefly reviewing the anatomy of the nasal cavities, he described first the pain which accompanied acute disease in various parts of the nose. These headaches varied in intensity and character according to the position of the disease, and were due chiefly to the pressure of pus or of hypertrophied tissue. In children adenoids frequently caused headache owing to the deficient oxygenation of the blood. Nasal polypi caused headache, but this was not constant. The nose should be thoroughly examined in all cases of persistent headache.

### *Local and Spinal Anæsthesia.*

A MEETING was held on April 2nd, Mr. LAWS, the President, being in the chair.

Mr. R. G. HOGARTH, in opening a discussion on Local and Spinal Anæsthesia, described the method of action of a solution of novocaine. It was not necessary that the solution should be injected into the nerve itself, but it was injected into the surrounding perineural tissue. This produced complete anæsthesia in the area supplied by the corresponding sensory nerves. When operating on small areas, it was sufficient to infiltrate the surrounding tissue for about two inches round the intended incision, with a 1 per cent. solution of novocaine. In operating on such areas as the scalp or fingers, it was sufficient to infiltrate at right angles to the sensory nerves supplying this area. For instance, the hand could be anæsthetised by infiltrating the median, ulnar, and radial nerves. Brachial plexus anæsthesia could be produced by injecting 60 c.c. of a 2 per cent. solution of novocaine into the brachial plexus as it passed over the first rib. The guide for this was the outer side of the subclavian artery just above the clavicle. Injections necessary to produce anæsthesia in various parts of the body were then described in detail. In particular, it was shown how the three divisions of the fifth nerve could be anæsthetised as they passed out of the base of the brain. For goitre operations it was necessary to infiltrate underneath as well as all round the tumour. Empyemata could readily be opened by blocking the three intercostal nerves concerned.

Mr. C. H. ALLEN reviewed the history of spinal anæsthesia. He employed Barker's solution of stovaine. The canal was punctured between the second and third lumbar interspaces. The patient should sit on the table with the legs hanging over and the back bent, or should lie doubled up with the pelvis and shoulders raised so that the mid-dorsal is the lowest dependent part of the canal. The puncture should be in the middle line, 5 c.c. of fluid allowed to escape, and then a syringeful of the solution injected. Anæsthesia was produced within 10 minutes and lasted for about an hour. No very serious sequelæ had been recorded in this country. Headache and pyrexia very often followed, but the headache was generally relieved by phenacetin. The chief advantages of this method of anæsthesia were absence of post-operative shock, complete muscular relaxation, no venous engorgements or respiratory movements, no starvation, and no post-operative sickness. As a disadvantage was urged the uncertainty of the anæsthesia. This method was contraindicated in cases of advanced sepsis. The special danger of septic meningitis was due to want of care and cleanliness in injecting the fluid. This method had been employed over 200 times at the General Hospital without any fatality, and in very few cases was the anæsthesia imperfect.

## LIVERPOOL MEDICAL INSTITUTION.

### *Acute Pancreatitis.—Exhibition of Cases and Specimens.*

A MEETING of this society was held on April 3rd, Mr. R. W. MURRAY being in the chair.

Mr. ARTHUR J. EVANS read a paper on Acute Pancreatitis. During the past 18 months he had operated on three cases. The disease was difficult to recognise and was often missed in the post-mortem room. His first case was a dock labourer, 35 years of age, who had been drinking heavily for ten days and vomiting incessantly for 16 hours. He had intense paroxysmal epigastric pain, the abdomen was retracted and fixed, especially in the upper part; he was delirious, with a rapid, thready pulse and subnormal temperature. On opening the abdomen the under surface of the omentum was studded with white areas; the pancreas was a large mass of necrotic tissue. The patient died in six hours. At the post-mortem examination no calculi were found. The second case was a woman, 51 years of age, fat, and of alcoholic habits, with a history of bilious attacks. She had been vomiting for several days, and had pain in the upper part of the abdomen. There was no jaundice, no abdominal distension, but fixation of the upper part of the recti. On opening the abdomen there were white, glistening plaques of fat necrosis on the omentum. The gall-bladder contained thick viscid bile and small calculi. This patient recovered. The third patient, a healthy man of 52, with no biliary history, was suddenly seized with severe epigastric pain and frequent vomiting. He had obstinate constipation followed by diarrhœa with green offensive stools; there was sugar in his urine. A month after this attack he was again seized with a similar attack. When the abdomen was opened there were extensive adhesions and the

peritoneum was red, but no fat necrosis was seen. An irregular mass was found behind the stomach. This was drained. The gall-bladder and duodenum were apparently normal. There was marked improvement after the operation, and the sugar disappeared from the urine; on the seventh day after the operation he became delirious and died three days later. No examination could be made. Mr. Evans pointed out the common association with gall-stones, and in making a diagnosis he thought the agonising pain in the epigastrium with vomiting and collapse, tenderness and fixation in the upper part of the abdomen were the important signs. Cases were often mistaken for intestinal obstruction. Drainage of the abdominal cavity and if necessary of the gall-bladder seemed the only treatment available.—Mr. F. T. PAUL thought the intense pain in these cases was typical peritoneal pain not due to the gland. He alluded to pancreatic cysts which, he said, varied much in their results, some being easy to deal with, others discharging a secretion which was very injurious to the tissues. He had seen many obstructed bile ducts that did not cause acute pancreatitis and he thought the causation of the condition was not clear. —Mr. R. W. MURRAY thought the acute pain was due to the irritation of the parietal peritoneum. It was not clear how the pancreas became poisoned, and the mere blocking of the duct by gall-stones might be doubted as the cause. He had seen a case in which these symptoms had come on suddenly after an operation on the knee-joint and the patient died. —Dr. A. STOOKES had seen a case in a woman sent into the maternity hospital for intestinal obstruction at full time; in that case Cæsarean section was done. The child was dead, the whole of the small intestine from the jejunum to within three inches of the ileo-cæcal valve was empty and collapsed. The peritoneal surface was everywhere red, the colour of tinned salmon, and studded with fine yellow spots; the large intestine contained gas but was not over-distended; the small intestine, 4 inches from the caput cæcum, formed a loop with which the caput cæcum and the vermiform appendix hung down into the pelvis behind the uterus, the mesocolon being there about 6 inches long. No mass was noticed in the upper part of the abdomen. Was it possible that obstruction due to the long mesocolon had caused pancreatic trouble with the fat necrosis of the peritoneum? There had been vomiting and probably reversed peristalsis for several days.—Mr. EVANS, in reply, said that he thought the acute pain and the extreme constipation might be due to the effect of the pancreatitis on the solar plexus.

The following cases and specimens were shown:—

Dr. A. GORDON GULLAN: Myxœdema, woman, aged 55; Pernicious Anæmia, male, aged 49; Pernicious Anæmia (?), male, aged 55.

Dr. JOHN HAY: Myasthenia Gravis in a woman; Acute Anterior Poliomyelitis in a man.

Mr. D. DOUGLAS-CRAWFORD and Dr. JOHN OWEN: Patient four years after removal of Tumour of the Spinal Cord.

Mr. R. C. DUN: Congenital Deformity of Ear; Spina Bifida Occulta; Cystic Goitre; Tumour of Foot (Exostosis).

Mr. G. C. E. SIMPSON: Early Keloid; Hypertrophied Scar; Congenital Scoliosis; Child after Congenital Exophthalmos; case of Sarcoma of Thyroid, operation and X ray treatment.

Dr. LESLIE ROBERTS: Disseminated Lupus; Multiple Rodent Ulcer; Erythema Induratum Scrofulosorum; Rapidly Spreading Lupus; Lymphangioma Circumscriptum.

Dr. G. S. STOPFORD-TAYLOR, Dr. R. W. MACKENNA, and Dr. RICHARD STOPFORD-TAYLOR: Lupus Pernio; Scrofulodermia; Lupus Erythematosus affecting the scalp; Lupus Erythematosus; Congenital Syphilis; Syphilitic Leucodermia; Hydroa Æstivale; Darier's Disease, showing the result of treatment with X rays; Ichthyosis.

Dr. FRANK H. BARENDT: Varicella prurigo; Tuberculide vel Syphilide; Tuberculide; Calvities post X rays; Perniones (tubercular).

Mr. T. H. BICKERTON: Cases of Chronic Glaucoma treated by "Elliot's operation."

Mr. HUGH E. JONES: Persistent Hyaloid Artery; Epithelioma of External Auditory Meatus.

Mr. J. E. MCDOUGALL and Mr. COURTENAY YORKE: Lupus of the Larynx and Nasopharynx; Tuberculosis of the Palate and Fauces; Tubercular Ulcers of the Tongue.

Mr. C. A. ADAIR DIGHTON: Cases, specimens, and instruments to illustrate "Yankauer's" operation for Chronic Suppurative Otitis Media.

# ROYAL ACADEMY OF MEDICINE IN IRELAND.

## SECTION OF SURGERY.

*Exhibition of Patients.—Subglottic Tumour.—Intratracheal Insufflation of Ether.*

A MEETING of this section was held on March 28th, Dr. R. D. PUREFOY, the President, being in the chair.

Mr. ROBERT H. WOODS showed a case of Acute Labyrinthitis in a man who was admitted to hospital with pain in the left ear, vertigo, and deafness. He had no fever while in hospital. Two days after admission a sero-purulent discharge appeared in the left external meatus and lasted for two days. He said that six years ago he had had a similar attack on the right side, from which he recovered, with complete loss of hearing on that side. There was slight fulness under the sterno-mastoid on the left side. The membrane was slightly inflamed. No pus was recognisable. He was so deaf that he was unable to hear questions even when shouted into his left ear. The deafness on the right side was absolute. There was slight spontaneous nystagmus and nystagmus after turning of small amplitude, lasting 15 seconds, both to the left and right side. The tuning fork just recognisable on the left mastoid; Schwabach's sign greatly shortened; the teeth slightly jagged at the edges, the central upper incisors slightly notched. Wassermann reaction doubtfully positive. The following day salvarsan was given intravenously, and mercury and iodide of potassium prescribed. Hearing is gradually returning in the left ear. He can now hear conversations three feet away on the left side, but the deafness on the right remains absolute.

Mr. W. I. DE C. WHEELER showed a patient with a Central Dislocation of the Hip. The interest of the case lay in the rarity of the condition and the good functional result obtained by leaving the dislocation unreduced.

Mr. WOODS read a paper on Two Cases of Subglottic Tumour. The first case was that of a boy, aged 11 years, with increasing difficulty of breathing. Stridor was very audible and the suprasternal notch sank during inspiration. Bronchoscopy under general anæsthesia showed a fungating granulomatous tumour growing from the right wall of the trachea immediately above the bifurcation. The growth was removed by forceps. Bronchoscopy was repeated under local anæsthesia and the tumour gradually entirely removed. A skiagram showed thickening of the glands at the bifurcation of the trachea. Six months later there was no trace of the tumour, and the opacity to X rays had completely cleared up. The growth was "round-celled with many blood-vessels, apparently granulation tissue." The second case was that of a man, aged 40, who for some years suffered from difficulty in breathing. The laryngoscope showed a tumour below the vocal cords apparently filling the whole trachea. The movement of the cords was free and the voice unimpaired. The bronchoscope showed the growth to be fixed by a broad base to the anterior part of the larynx or trachea below and clear of the vocal cords. A piece removed for examination was reported by Professor O'Sullivan to be malignant. The growth was removed by laryngofissure. It was found to grow from the cricoid cartilage. The patient made an uninterrupted recovery, but subsequently contracted typhoid fever, from which he died three months later. The trachea was obtained, and the site of the growth found to be perfectly healed.

Dr. H. DE L. CRAWFORD read a paper on the Intratracheal Insufflation of Ether, and demonstrated his apparatus. This method was first introduced in 1909 for experimental work, and ever since then had been used with marked success on human beings. It consisted essentially in forcing etherised, warmed, and filtered air into the trachea at a point one inch above the bifurcation through a catheter which was passed through the larynx from the mouth. The air then returned between the catheter and laryngeal wall. The chief advantages were that it permitted full oxygenation of the blood even if both pleurae were opened, that no blood, vomit, or mucus could get down through the glottis, and that the anæsthetist was quite out of the surgeon's way in operations on the head

and neck. He had found the method quite free from danger and very satisfactory, but emphasised the necessity for using an automatic safety valve of mercury.—Sir JOHN LENTAIGNE said that he had often felt the need for some means of producing positive pressure to do away with collapse of the lungs in operations on the chest wall, and the instrument shown would appear to do this. Unquestionably, in any case in which the chest wall had to be interfered with to any extent the apparatus must add enormously to the safety of the patient.—Dr. T. P. C. KIRKPATRICK said that theoretically the method seemed to be one which would overcome some of the most serious difficulties that anæsthetists had to deal with. He pointed out that the apparatus would be chiefly used for operations on the thorax, but thought there was a considerable field of usefulness for it in upper air-passage cases.—Mr. A. A. MCCONNELL pointed out that the expense of negative pressure cabinets had hitherto almost prohibited their use. He detailed the variety of cases in which the instrument had been used with the greatest success, and noted that Frazer, of Philadelphia, used the instrument in all his head cases. It was not necessary to have the patient deeply anæsthetised when introducing the tube.

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ULSTER MEDICAL SOCIETY.—The first pathological meeting of the session of this society was held in the Pathological Laboratory of the Queen's University on April 3rd, Dr. R. W. Leslie, the President, being in the chair.—Professor W. St. C. Symmers and Dr. W. W. D. Thomson showed specimens illustrating Streptotrichal Infection of the Scrotum of a pony, and a series of Pathological Specimens from cases in which sudden death had occurred (ruptured thoracic aneurysm, hæmorrhage into the pons, hæmorrhage into the ventricles, and broncho-pneumonia after measles causing sudden death in a tram-car).—Dr. C. Kevin and Dr. Thomson showed slides from a case of Splenomedullary Leucocythæmia showing improvement under arsenic.—Dr. J. E. MacIlwaine gave a fully illustrated demonstration of Pipette Analysis for the examination of small quantities of blood, urine, &c.—Dr. W. J. Wilson showed a new Vaccine Container, and illustrated methods for administering vaccines by weight rather than by number.—Sir John Byers and Dr. Thomas Houston communicated a paper on a very rare case of Tetragenus Septicæmia, fully illustrated with cultures, slides, thermometric charts, &c., in which vaccines had been successfully used in the treatment of the general condition, as well as the local lesion in the ear.—An interesting discussion followed.

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SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of the above society was held on Wednesday, April 9th, Sir Thomas Boor Crosby, president, in the chair. Fifteen directors were present. Four gentlemen were elected members of the society. Since the last court one of the widows in receipt of grants had died. She had been on the funds since 1872, and had received from the society the sum of £2500. Her husband had paid in subscriptions 50 guineas. The acting treasurer, Dr. F. de Havilland Hall, reported that the society would shortly benefit to a very large extent under the will of the late Mr. James Brickwell. Mr. Brickwell was elected a member in 1833, and died in 1893, and by his will made the society his residuary legatee, his son, however, having a life interest in the money. The total amount of the legacy cannot at present be definitely fixed, but will probably exceed £36,000. Dr. de Havilland Hall hoped to be able to make a definite statement at the July court. The invested funds of the society now amount to £101,600. The annual general meeting was fixed for Tuesday, May 6th, at 5 P.M.; notices will be posted to the members in due course. Membership is open to any registered medical practitioner who at the time of his election is resident within a 20 mile radius of Charing Cross. The annual subscription is 2 guineas. Special terms for life membership, which vary with the age of the candidate. Application forms for membership and further particulars may be obtained from the secretary at the offices of the society, 11, Chandos-street, Cavendish-square, W.

# Reviews and Notices of Books.

*Diseases of Women.* By THOMAS GEORGE STEVENS, M.D., B.S. Lond., F.R.C.S. Eng., M.R.C.P. Lond., Obstetric Surgeon, with Charge of Out-patients, St. Mary's Hospital, Paddington; Surgeon (Gynæcological), the Hospital for Women, Soho-square; Physician to In-patients, Queen Charlotte's Lying-in Hospital; Examiner to the Central Midwives Board. With 202 illustrations. London: University of London Press (Henry Frowde). 1912. Pp. 431. Price 15*s.* net.

IN his preface to this work the author puts forward the view, most certainly a correct one, that the study of gynæcology must be carried out upon a pathological basis in the same way as medicine and surgery. The importance of this to anyone who has had much experience in teaching this subject is obvious, and yet, curiously enough, there seems to be rooted in the mind of the student an idea that in some mysterious way the pathology of the female pelvic organs differs from that of the body as a whole, and requires separate consideration and study. No doubt this is a survival of the old ideas which for so many years held the field, and which, even in some modern text-books, have not been entirely banished, that the etiology and pathology of the diseases of the uterus and its appendages have a character of their own and are not to be explained by the principles of general pathology.

Dr. Stevens's reputation as an authority upon pathological anatomy lends additional weight to his views and value to this book. The work is, above all, distinguished by the very clear and full descriptions given of the pathology of the various affections, while the large amount of experience upon which the conclusions are based entitles them to our most careful consideration. It is interesting to turn to the description of so-called endometritis and to read the author's views upon the exact nature of the different conditions grouped under this heading. We are glad to see that Dr. Stevens condemns the term "diffuse benign adenoma" for cases of thickening of the endometrium in which no acute infection has been known to occur. He also rejects the view that such thickening may be due to the persistence of changes which accompany the menstrual cycle. He points out that inflammation in any part of the body essentially consists of two manifestations—namely, leucocytic infiltration and overgrowth of the fixed tissues of the part. Undoubtedly in cases of true endometritis we see the two processes, leucocytic infiltration and overgrowth, both present, and in cases of so-called adenoma we also see exactly the same overgrowth of glands and connective tissue without any leucocytic infiltration. In the author's opinion, therefore, it is perfectly legitimate to regard the endometrial thickenings as the overgrowth moiety of a very chronic inflammatory process due to a past infection from which both the organism and the leucocytic infiltration have disappeared. The suggestion is also put forward that some of these thickenings are toxic in origin and analogous to some cases of chronic mastitis. The author, in our opinion, is inclined to disregard to too great an extent the effect of chronic pelvic congestion, which undoubtedly is very often present, more particularly at the present day, when the prevention of pregnancy is so common a custom. Dr. Stevens would not deny that long-continued or often-repeated congestion of a part will lead to overgrowth just as well as chronic infection, and for this reason we still think that a large number of cases of so-called endometritis are in reality the result of pelvic congestion and not necessarily the sequelæ of infection; and it must be remembered that in many of these no evidence of any infection can be obtained, and often

there is nothing in the history of the patient to suggest any such thing.

We notice that Dr. Stevens favours Gilliam's operation for cases of backward displacement requiring operation performed according to Mayo's method. In discussing the treatment of cases of dysmenorrhœa he condemns dilatation of the cervix to an unwarranted degree perhaps when he says that this procedure rarely cures. We should not have thought that this was the experience of most gynæcologists; it certainly often fails because it is carried out in cases which are not suited for it and are not in reality cases of true spasmodic dysmenorrhœa. The operation is recommended by Dr. Stevens to be combined with curettage, and in young sterile women with splitting of the posterior lip of the cervix. The chapter on displacement of the pelvic organs is particularly good and the author's recommendations as to treatment are sound. Possibly he gives too great a prominence to the part played by the levator ani muscle and too little to the so-called endopelvic fascia or the suspensory fascia of the uterus described by Waldeyer. A study of the plates in "Liepmann's Atlas of the Anatomy of the Pelvis" shows very admirably how important a structure this fascia is and how a complete prolapse can occur with very little alteration in the levator ani muscle.

The whole book is a refreshingly good one; there is no chapter in it that the student or practitioner can read without profit, and, as we have said, it is particularly strong in its pathology. The illustrations are good, and the plan Dr. Stevens has adopted of reproducing his large micro-photographs by direct photography upon a plate exposed in the rays of the epidiascope is certainly a success.

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*Abhandlungen über Salvarsan.* Gesammelt und herausgegeben von PAUL EHRLICH. Band II. München: J. F. Lehmann. 1912. Pp. 609. Price 10 marks; bound, 12 marks.

*La Stérilisation de la Syphilis.* Par le Dr. LEREDDE. Paris: A. Maloine. 1912. Pp. 147. Price 2.50 francs.

*Salvarsan in Syphilis and Allied Disorders.* By J. E. R. MCDONAGH, F.R.C.S. Eng., Surgeon to Out-patients, London Lock Hospitals. London: Oxford University Press (Henry Frowde and Hodder and Stoughton). 1912. Pp. 164. Price 7*s.* 6*d.* net.

*Ueber die Pathogenese der Salvarsantodesfälle.* Von Dr. WILHELM WECHSELMANN, dirigierendem Arzt der dermatologischen Abteilung im Rudolf Virchow-Krankenhaus in Berlin. Mit 7 Textabbildungen. Berlin und Wien: Urban und Schwarzenberg. 1913. Pp. 84. Price 4 marks.

THE continuous outflow of works from the medical press of all countries connected with the subject of syphilis and salvarsan affords a good proof that the medical profession has studied this synthetic remedy thoroughly and that its value is being recognised to the full. At the same time, the difficulties both of its administration and of the choice of suitable cases are being acknowledged, and inquiries are proceeding to eliminate so far as possible the objections that have been raised against this therapeutic weapon. The works the names of which are quoted above all deal in one way or another with salvarsan.

In Professor Ehrlich's work are collected a very large number of papers on salvarsan taken from the periodical literature and dealing with the various aspects of the subject. They relate to the manner of injection, to the influence of the drug on the nervous system, to its use in visceral syphilis, to by-effects of salvarsan, and to the relation of fatal cases and their explanation. Some articles relate to the value of the drug in frambœsia, in malaria, in scurvy, and in various other diseases. Thus it is seen that the book is a storehouse of information on various points in the use of salvarsan, and as such it will prove of value to all who are investigating the use of the drug, but it will be of little value to the general practitioner.

Dr. Leredde, in his little treatise, has dealt with many important points in connexion with syphilis. He explains clearly the Wassermann reaction, and he shows what the results of an injection of salvarsan are. He describes the various methods of introducing salvarsan into the body, and he discusses the causes of unfavourable results. He considers that every case should be treated individually and that treatment should be continued until a negative Wassermann reaction is permanently obtained. This result, he says, may be attained either by salvarsan or by mercury, and it will follow a four years' course of the injection of "grey oil." On the whole, he is opposed to the simultaneous administration of mercury and salvarsan, as he considers that it will tend to induce surgeons to give doses which are so small as to be ineffective. He thinks that it is better, if mercury is used at all, to employ the full treatment and then to give salvarsan if any manifestations of the disease remain; or if salvarsan treatment is ineffectual, then it is justifiable in his opinion to administer a course of mercury.

Mr. McDonagh's work is eminently practical; it deals with the administration of the drug and its value in the treatment of syphilis, and it demonstrates that in suitable cases the results obtained are excellent. The author shows what influence salvarsan has on the Wassermann reaction and also discusses its employment in diseases other than syphilis.

Dr. Wechselmannn has done much for the spread of the employment of salvarsan, and he has added to the debt which the medical profession owe him by the publication of this timely work on the causes of death in those patients who have died after the administration of salvarsan. He points out that the cases requiring investigation are not those in which patients with severe organic disease die after an intramuscular injection of salvarsan, but those in which healthy young persons die within a short time of an intravenous injection with acute symptoms, and when no gross technical error in administration has been committed. From the fact that several patients have been injected from the same solution of salvarsan and yet only one of the number has died, it is clear that the cause of the death must be sought in some peculiarity in the patient himself and not be attributed merely to the drug. The author discusses the various cases and classifies them so far as is possible; and he comes to the conclusion that in most fatal cases the result could be directly attributed to the salvarsan in only a very small proportion, though it may have had some influence in many. He thinks that a very large number of the deaths could have been avoided if more care had been taken in the administration of the drug. He advises that the greatest care should be taken in the technique; that the dose should be carefully adjusted to the case; that the condition of the kidneys should always be investigated, for any deficiency in the action of these organs increases the danger; that mercury and salvarsan should never be administered simultaneously, but that if the combined treatment is desired the salvarsan should be given first and then after an interval the mercury may be cautiously employed; and lastly, that all abnormal symptoms and any rise of temperature after an injection of salvarsan should be carefully investigated in order that the cause may be found and remedied if possible.

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*Die Vasomotorisch-Trophischen Neurosen.* Eine Monographie von Dr. R. CASSIRER, Privatdozent an der Universität Berlin. Zweite umgearbeitete und vermehrte Auflage. Mit 24 Abbildungen im Text und 24 Tafeln. Berlin: S. Karger. 1912. Pp. 988. Price 30 marks.

THE second edition of Dr. Cassirer's monograph on vasomotor and trophic neuroses contains the results of numerous investigations during the last decennium on the difficult

subject of which it treats. There is much, nevertheless, that remains obscure in the etiology and pathogenesis of such affections as Raynaud's disease, erythromelalgia, sclerodermia, acute circumscribed œdema, acroparæsthesia, and multiple neurotic cutaneous gangrene, which are the main topics of the monograph. Medical science is only beginning to realise the intimacy of the associations between the sympathetic system and the glands of internal secretion, and there is a wide field yet to be covered ere the chapter of the vasomotor and trophic neuroses can be completed.

Dr. Cassirer's monograph may be heartily recommended to the profession as an authoritative statement of the present state of our knowledge on the subject. An anatomical and physiological introduction of some 130 pages deals with the vasomotor tracts and centres, the secretory mechanism, and the vexed question of the trophic functions of the nervous system. The clinical descriptions of the various diseases above specified leave nothing to be desired. Their pathology and differential diagnosis are handled in a masterly fashion, although in a large volume like this we think room might have been found for more pathological illustrations. Nor should the reader omit the paragraphs on treatment; they serve their purpose well. A most extensive bibliography, probably the best that has ever been collected, and a series of fine X ray and coloured plates, materially enhance the value of the book. There is no index.

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*A Manual of Surgical Treatment.* By Sir W. WATSON CHEYNE, Bart., C.B., D.Sc., LL.D., F.R.C.S. Eng., F.R.S., Honorary Surgeon-in-Ordinary to H.M. the King; Senior Surgeon to King's College Hospital; and F. F. BURGHARD, M.S. Lond., F.R.C.S. Eng., Surgeon to King's College Hospital and Senior Surgeon to the Children's Hospital, Paddington Green. New edition, entirely revised and largely rewritten with the assistance of T. P. LEGG, M.S. Lond., F.R.C.S. Eng., Surgeon to the Royal Free Hospital, Assistant Surgeon to King's College Hospital, and ARTHUR EDMUNDS, M.S. Lond., F.R.C.S. Eng., Surgeon to the Great Northern Central Hospital, Surgeon to Out-patients, the Children's Hospital, Paddington Green. In five volumes. Vol. II. London, New York, Bombay, and Calcutta: Longmans, Green and Co. 1912. Pp. 570. Price 21*s.* net.

THE characteristics which distinguished the first volume of the revised edition of this work are equally conspicuous in the second part. The practical character of the information supplied is evident from a mere glance at the volume, and the practitioner cannot but benefit from possessing such a treatise to which he can refer as need arises.

The first section of this volume deals with the surgical affections of the soft parts, the skin, the subcutaneous tissue, the lymphatic glands and vessels, the fasciæ, bursæ, muscles, nerves, arteries, and veins; the second part includes the surgery of the bones; and the third is concerned with amputations. It will be seen that a wide range of subjects is dealt with, and in every matter the latest methods are described.

In a volume covering so much ground it is inevitable that there must be many points which offer themselves for discussion, and we may refer to one or two of these. In the account of the treatment of an aneurysm by ligature of the artery the following sentence occurs: "The older method was to apply the ligature immediately above the sac—'Auel's operation'"; and a little further on, after the mention of the objections to Auel's method, comes the sentence: "Therefore, the modification of ligaturing the artery at a distance from the sac, known as the 'Hunterian operation,' was substituted." Auel performed his operation in 1710, and Hunter employed his method for the first time in 1785; but there is not, so far as we are aware, any evidence that Auel's method was ever performed in the 75 years which intervened, except by Desault, who used it once in the very same year (1785) in which Hunter introduced his new method, and there is no evidence that Hunter had heard of Desault's operation. Hunter's method was devised, not as a substitute for Auel's method, but to replace the classical operation of Antyllus, which consisted essentially in tying the artery both above and below the aneurysm. Desault's case was perfectly successful, and therefore its result could have no influence in suggesting another operation. This is, perhaps, but a small point, but the idea that Hunter's operation replaced Auel's because of the bad results of the latter method is so firmly rooted in modern surgical literature that it is worth while to point out that it is not founded on fact.

Surely it is time that the word "scrofulous" should be allowed to die. If it is intended to be synonymous with "tuberculous" the latter word is more suitable, and if this is not intended the word is too indefinite in signification to be employed in medical science. We find here the expression, "scrofulous gummata," used; it would be far better to speak of "tuberculous nodules."

These are, of course, mere details. For the rest, it may be said that the views taken by the authors have always authority to support them, and the manual as a whole is a compendious and trustworthy guide to surgery.

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*A Treatise on Pellagra.* By EDWARD JENNER WOOD, S.B., M.D., Chairman of the Pellagra Commission of the North Carolina Board of Health. London and New York: D. Appleton and Co. 1912. Pp. 377, with 38 illustrations in the text. Price, cloth, 16*s.* net.

THIS book is evidently the result of long and close study of the subject. It was begun, we understand, at a time when there was not a single treatise on pellagra in the English language except the short article in Clifford Allbutt's "System of Medicine" and that in the "Encyclopædia Britannica." Great attention has been bestowed by the author upon the work done by investigators not only in America but on the continent of Europe. In addition to much original matter the volume contains an abstract of the literature of the disease up to the present time from most of the foreign countries where pellagra is met with. It is of interest to note that Dr. Wood confesses himself as not being a believer in the maize theory of the causation of the disease, though he carefully discusses the etiology from the zeist as well as from the antizeist points of view.

The work is divided into ten chapters, in which are considered the history and geographical distribution of pellagra, the theories concerning its etiology, the general characteristics of the malady, the skin manifestations, the digestive disturbances, the nervous and mental changes which result, as well as the diagnosis, prognosis, prophylaxis, and treatment. The author, it appears, believes that pellagra is a parasitic disease, though he is not satisfied that the simulium, as claimed by Sambon, is the particular intermediate host in the transmission, but as to this he admits that the question is still *sub judice*. As respects the prophylaxis and treatment of pellagra Dr. Wood contends that they depend entirely upon the etiology of the disease, and until that is completely elucidated there can be no definite pronouncements. In the author's opinion, however, the malady can no longer be classed among the incurable complaints; it is not a self-limited disease, and unless vigorously treated from the beginning the same consequences must follow as in syphilis. He adds, "The therapeutic nihilist has no more right to treat pellagra than he has to treat syphilis." Much therefore depends upon an early diagnosis of the disease, for the most successful treatment is that

which is begun early. Dr. Wood is inclined to regard favourably the use of preparations of arsenic.

The book is the work of a scholar who has long and carefully studied his subject, and the volume can be thoroughly recommended as a trustworthy treatise upon an obscure but important malady. As has already been said, it presents a very readable digest of the views of foreign authors, as well as giving in a succinct form many facts carefully collected in America by the author.

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*Selected Papers on Hysteria and other Psychoneuroses.* By Professor SIGMUND FREUD, of Vienna. Authorised translation by A. A. BRILL, M.D., Clinical Assistant, Department of Neurology and Psychiatry, Columbia University. Second enlarged edition. New York: Journal of Nervous and Mental Disease Publishing Company. 1912. Pp. 215. Price $2.50.

THIS edition of Professor Freud's selected papers on hysteria has been enlarged by the inclusion of the essay on "wild" psycho-analysis, and of another on the future chances of psycho-analytic therapy. Thus completed, it presents to the English reader a very fairly complete view of both the earlier and the later contributions of Professor Freud to the subject of the psychoneuroses, enabling him to follow the development of the author's ideas and of the methods employed by him in psychotherapy. In the first of the two new papers Professor Freud maintains that the psycho-analyst uses, or should use, "sexuality" in the same sense as the word "love" in the English language, and holds that lack of psychic gratification, with various consequences, may exist where there is no lack of normal sexual intercourse. He deprecates the restriction of the subject to the somatic factor in sexuality, and points out various mistakes in technique committed by over-enthusiastic disciples of his school. In the second paper Professor Freud gives it as his opinion that considerable improvement in therapeutic results will ensue with further knowledge of method. He says that in the matter of the symbolism of dreams and the subconscious life "we actually discover something new every day." The latest discovery is that to dream of climbing a stair is a definite symbol of the sexual act. "Under rhythmic intervals and with increasing difficulty in breathing one reaches a height, and may come down again in a few rapid jumps." Other equally natural explanations do not apparently commend themselves to the author. Our readers will find on p. 1114 of this issue of THE LANCET an interesting article upon Professor Freud's theory of dreams, by Professor William Brown, of King's College, London.

The not always easy task of rendering into readable English the somewhat involved and occasionally elliptic style of the author has been satisfactorily accomplished by Dr. Brill.

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*Fortschritte der Naturwissenschaftlichen Forschung.* Herausgegeben von Prof. Dr. EMIL ABDERHALDEN. Sechster Band. Mit 106 Textabbildungen. Berlin und Wien: Urban und Schwarzenberg. 1913. Pp. 268. Price, paper, 15 marks; bound, 17 marks.

A VARIED menu. The following subjects are presented: The Present Position of Investigation of Lakes—a continuation of the paper in Vol. VI. of W. Halbfass, of Jena. It extends to 72 pages, and deals with the topography, hydrography, and geology of the European lakes. Dr. V. Franz, of Frankfort, devotes over 30 pages to Comparative Neurology and Psychology. It cannot, however, be said that the contribution adds materially to our knowledge of this subject, though it fairly represents such knowledge as we possess as to the relation between the organisation of the nervous system and the psychical life of animals. The author, however, notes particularly that conscientious investigations have so far not led to the conviction that within the species homo sapiens the cultured civilised races possess a more convoluted or even a heavier brain than the less cultured uncivilised races. The author bases his assertion largely on the researches of Professor Kohlbrugge, published in 1911 (not in 1811 as set forth in the text). Professor Korschelt writes in an entertaining fashion about Pearls, giving an account of their structure, origin, and applications. The account occupies about 80 pages, and is both readable and informing; in fact, the story is well set forth in word and in pictures. Artificial and also vegetable pearls are included. G. Eichhorn, of Zürich, gives a short account of Recent Advances in Radiotelegraphy, while Professor Klaatch continues his presentation of the Origin and Acquisition of Human Characteristics. Nearly 70 pages are required to elucidate the author's account of the human foot and man's erect posture. The subject is treated more especially from the point of view of comparative and human anatomy.

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*A Text-Book upon the Pathogenic Bacteria and Protozoa for Students of Medicine and Physicians.* By JOSEPH MCFARLAND, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia, &c. Seventh edition, thoroughly revised. With 293 illustrations, a number of them being in colours. London and Philadelphia: W. B. Saunders Company. 1912. Pp. 878. Price 15*s.* net.

PREVIOUS editions of this text-book have been reviewed at length in these columns, and the value of the work as a clear and comprehensive survey of its subject designed for the use especially of the medical man has been fully recognised. That its popularity is considerable is evidenced by the appearance of this, the seventh edition, which is very considerably increased, not only in bulk, but also in the range of its subject matter. The author in previous editions strictly confined his attention to bacteria, and further to those pathogenic to man. The pressure of the rapidly increasing knowledge of diseases caused by protozoa has broken down this conventional limitation and compelled Dr. McFarland, in order to make the work complete as an account of human infectious disease, to admit protozoal diseases to his book.

The growing literature of bacteriology and the resulting specialisation render it more and more difficult to keep a work on general bacteriology within bounds, but the author escapes from the difficulty, as in former editions, by writing especially for the student of human medicine and pathology. This leading idea, though the book is not a laboratory manual, involves such details of laboratory technique as are of service to the practitioner, and especially such as refer to the methods of diagnosis and treatment which grow out of the study of microbiology. The introduction of the protozoa has necessarily increased and altered the chapter dealing with structure and classification, and the completion of the book for the medical man has required the introduction of chapters on the determination of the phagocytic index and on the theory and technique of the Wassermann reaction. This last is very fully described and illustrated in its original form, and also in the modification due to Noguchi.

The second part of the work contains the usual descriptions of pathogenic micro-organisms, with the pathology of the lesions produced by them. The arrangement has been considerably changed since the fifth edition, and seems, indeed, to be rather haphazard. The protozoal diseases are grouped amongst the bacterial diseases and not treated separately. They include malaria, trypanosomiasis, kala-azar, yellow fever, amœbic dysentery, tropical ulcer, and histoplasmosis, this last an apparently new disease of the Panama Canal Zone. Amœbic dysentery is treated with unusual fulness. There does not seem to be any mention of the recent

interesting work on anterior poliomyelitis, and in the description of African tick fever Leishman's work is omitted. The spirochæta pallida is dissociated from other spirilla. It is well described, especially with reference to methods of culture. In the chapter on actinomycosis there is not the importance attached to the anaerobic character of the organism found in human disease which is usual in American writings.

The work forms a handsome volume, well printed on good paper and well illustrated, though some of the photographs suffer from over-magnification of the organisms represented.

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*Infections of the Hand, a Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand, and Forearm.* By ALLEN B. KANAVEL, M.D., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. Illustrated with 133 engravings. London: Baillière, Tindall, and Cox. 1912. Pp. 447. Price 15*s.* net.

THIS book is composed of two parts; in the one are recorded a large number of experiments on the mode of spread of infections from one part of the hand to another, and an account is given of those anatomical relations which are of importance in the surgery of the hand. The second part applies these facts to the surgical treatment of sepsis of the hand and forearm. There are numerous illustrations showing the lymphatic and synovial spaces of the hand, and an examination of these will demonstrate clearly the reasons why infections of this region spread so rapidly. The site of the incisions required to deal with these infections must depend on the anatomical relations of the part, and the incisions must be rightly placed.

The importance of the hand justifies a very close study of the methods of treatment to be employed in infections involving it, and Dr. Kanavel's book will prove of service in enabling the practitioner to understand the reason of the treatment and in applying it with benefit to the patient. The functional difference between the results of a sepsis of the hand rightly and wrongly treated is very great, and too much attention cannot be bestowed on this subject.

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*Pathological Inebriety: its Causation and Treatment.* By J. W. ASTLEY COOPER, L.R.C.P. & S. Edin., L.F.P.S. Glasg., Medical Superintendent and Licensee of Ghyllwoods Sanatorium. With Introduction by Sir DAVID FERRIER, M.D. Edin., F.R.S. London: Baillière, Tindall, and Cox. 1913. Pp. 151. Price 3*s.* 6*d.* net.

THE numerous works dealing with the medical aspects of alcoholic intemperance that have appeared within the last few years afford gratifying proof of the change that has come over lay and professional opinion with regard to the real nature of inebriety. Mr. Astley Cooper's modest volume is a useful addition to the literature, written under the influence of this new spirit. It deals, as is implied by its title, with inebriety conceived as a manifestation of some defect or disorder of nervous organisation; and though it is by no means easy to fix on the criteria by which cases of this sort are to be distinguished from cases of what, by contrast, we may term normal intemperance, the existence of such a type of neuropathic inebriety is a fact which will hardly be questioned by anyone who has had experience in this matter.

It is, of course, in its bearing on treatment that the recognition of this variety of intemperance has practical importance, for it obviously implies that mere isolation with enforced abstinence, or mere drug treatment directed to a hypothetical specific "drink crave," must be unavailing so long as the underlying nervous disorder persists. This is the view which Mr. Cooper seeks to enforce. He sets out in clear and simple language the methods of treatment which in his experience have given the most satisfactory results, and he points out that these results have been attained by supplementing the ordinary institution treatment by measures directed to the re-education of the will and the development of the power of self-control. The extent to which any such process of character-construction can be carried out is, of course, in many cases very limited, but it is encouraging to observe that those medical men who have had the widest experience in the use of psychotherapeutic methods are the least pessimistic in their view of the possibilities of treating inebriety with success. In agreement with most authorities, Mr. Cooper considers that suggestive treatment, on which he lays special stress, may in many cases be better administered in the waking state; when, however, it is desirable to produce hypnosis, he finds that the best results are got with the most profound degree of sleep that can be induced.

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*Building a Profitable Practice.* By THOMAS F. REILLY, M.S., M.D., Professor of Applied Therapeutics, Medical Department, Fordham University, New York City. London and Philadelphia: J. B. Lippincott Company. 1912. Pp. 290. Price 10*s.* 6*d.* net.

THIS is a book on the practice of medicine from the business point of view as a means of livelihood. It is addressed to American medical men, and although a great deal that is contained in it will be found applicable to professional practice in this country, parts of it are not. Perhaps it is well that in England we take it for granted that attention to duty and reasonable capability are sufficient to ensure success. We also take it for granted that no special business instruction is needed, so we write no books and give no lectures on the making of profits. Dr. Reilly's book is concerned with the making of profits, and every aspect of the medical man's life is considered. There are chapters on post-graduate study, on hospital and dispensary practice, on furnishing and equipment, and on all details of the actual work of a practice, not omitting such intimate matters as the making of friends, personal manners and appearance, and marriage. The chapter on prognosis will be found very useful to the inexperienced man. He is certain to be questioned on this subject by his patients, and his success will depend in great measure on the correctness of his prognostication. The older and more trusted practitioner can often avoid questioning, but the young man is frequently nailed down. He will get much help from this chapter, particularly on that most difficult part of prognosis relating to death itself. The chapters on diagnosis and malpraxis are also very full of useful information, and that on the management of an obstetric case is one to read and mark.

It has been said that the American puts into words what we on this side only think, but there are passages in this book which make us hope that some of the suggested counsel will fall on unintelligent ears. For instance, on p. 62: "When you are examining an applicant for admission to a secret lodge or fraternal insurance company, after routine examination look into the nose for spurs, polypi, or enlarged turbinates. ..... As lodge physicians are expected to give free medical attendance only, any surgical work that is required will be paid for at regular rates, and when you consider that almost every man has some trouble with his nose you will see the size of your field. *The problem before you is simply to convince him that the operation is necessary* and beneficial, and knowing this is true that should be a simple matter." Again, on p. 249 we read: "Soon after you have opened your office, the near-by druggist will probably present you with prescription pads with your name and address above and his own on the bottom or on the back of the page. Unless there be some favours shown to you

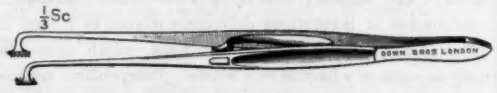
by a certain druggist it is better to *tear off the name of the druggist from the bottom of the pad.*"

There can be no doubt that the newly qualified man is quite often unfitted to set up in practice for himself, even if he has spent one or two years in house appointments first. In the old days of apprenticeship it was different. He was taught how to "run a practice" and how to deal with people, both of which accomplishments are now allowed to come as they may. They come generally through assistantships and junior partnerships, or by the less pleasant way of costly experience. Perhaps it is better so. Books, however, have their place, and the book under review deserves to find a public; and although we should prefer to have seen some things omitted from it, we are bound to say that it contains a large quantity of very practical and good advice in subjects on which the medical man should be well informed.

# New Inventions.

## A NEW SPRING CATCH FORCEPS FOR TONSIL ENUCLEATION.

THE instrument illustrated below will be found of particular advantage in dealing with tonsils that are not easily accessible to the guillotine alone. The distinctive features




are: (1) the blades curve sharply at right angles close to the jaws; the jaws open and close in the vertical plane, thus FULL SIZE enabling the operator easily to get a firm grasp of the tonsil; (2) the jaws have short saw-shaped teeth, giving a firm hold and affording plenty of room between the blades when opened, an advantage in working in the small space available; and (3) the instrument passes conveniently through the fenestra of a guillotine or the loop of a snare.

The makers of the instrument are Messrs. Down Bros., Limited, St. Thomas's-street, London, S.E.

Brighton. ARTHUR J. HUTCHISON, M.B., C.M. Glasg.

## AN INSTRUMENT TANK.

THE sterilisation of instruments in private houses by a spirit lamp and boiling water immediately prior to an operation is an annoying and time-consuming process, and owing to the vagaries of spirit lamps is not unattended by risk of accident. The instrument tank represented in the illustration is of a size to hold all the instruments required for an ordinary abdominal operation. The instruments required are boiled at home in an ordinary steriliser, dried (by heat or methylated spirit), and placed in the tank immediately

ready for use, immersed in methylated spirit, to which, if desired, a proportion of lysol can be added. Sharp instruments, such as knives, scissors, and needles, are kept in the tank permanently and need not be boiled. Ligatures may also be kept in the tank. Once in two or three weeks the instruments should be taken out and cleaned, especially if lysol is used, since it causes a greasy deposit to form upon them. It is also important to see that no blood or water gets access to the tank since in either case the instruments will rust. It should be noted that the tank is not intended for sterilising instruments by heating. It is simply used as a container. The top, sides, and bottom of the box are made of sheet copper. The whole strength of the box is concentrated in the circumference of the lid, which is a gun metal casting, and the top edge of the box itself, which is also cast in gun metal, and has upon its upper aspect all round a deep undercut groove into which a ring of hard rubber is forced by pressure. This groove corresponds with a V-shaped ridge within the lid which bites into the rubber and ensures a spirit-tight joint.

The instrument tank was made to my design by Messrs. Mayer and Meltzer, 71, Great Portland-street, London, W., and has been tested by two years' constant use in practice.

W. SAMPSON HANDLEY, M.D., M.S. Lond.

New Cavendish-street, W.

# ROYAL COLLEGE OF SURGEONS OF ENGLAND.

## MEETING OF COUNCIL.

A QUARTERLY meeting of the Council was held on April 10th, Sir RICKMAN J. GODLEE, the President, being in the chair.

The best thanks of the Council were given to Dr. Charles Hose for presenting some skeletons of adult orangs and other specimens to the Museum.

The Jacksonian Committee having adjudged the Jacksonian Prize for the year 1912 to the author of the dissertation on "The Embryology and Treatment of Cleft Palate" under the pseudonym of "Digamma," the PRESIDENT opened the envelope bearing this title, and declared that the enclosed name was Mr. F. W. Goyder, M.B. Cantab., F.R.C.S. Eng., of Bradford, and to him was awarded the Jacksonian Prize. It was decided to make the following the subject for the Jacksonian Prize for 1914: "The Pathology, Diagnosis, and Treatment of Trigeminal Neuralgia."

The Triennial Prize was awarded to Dr. W. Blair Bell for his essay on "The Anatomy and Physiology of the Pituitary Body and the Relationship with Disease of its Abnormal and Morbid Conditions." It was decided to make the following the subject for the Triennial Prize for the three years ending 1915: "The Human and Comparative Anatomy and Physiology of the Cerebellum."

The PRESIDENT reported that the Sir Gilbert Blane Medals had been awarded to Fleet-Surgeon Richard Cleveland Munday, H.M.S. *Hyacinth*, 1910, and Fleet-Surgeon Edward Sutton, H.M.S. *Highflyer*, 1911, both Members of the College.

Mr. M. F. Hopson, of Guy's Hospital, was elected a member of the Board of Examiners in Dental Surgery. Sir Rickman J. Godlee, the President, was re-elected a member of the Senate of the University of London for the ensuing four years.

Mr. EDMUND OWEN, Vice-President, reported the delivery of the Hunterian oration by the President. The best thanks of the Council were given to the President for his oration, and he was requested to publish it.

A report from Mr. C. H. Golding-Bird on the proceedings of the Central Midwives Board was read, and the best thanks of the Council were given to him for his services as the representative of the College on the Central Midwives Board.

The name of a Member of the College was removed from the roll of Members in consequence of the issue of objectionable pamphlets and advertisements.

The PRESIDENT stated that Thursday, August 7th, had been fixed as the date of the conversazione at the College to the members of the Seventeenth International Congress of Medicine.

The SECRETARY reported that Surgeon-Major Henry Benjamin Hinton, of Adelaide, South Australia, admitted a Member of the College in the year 1835, had attained the age of 100 years on March 7th, 1913. It was resolved to send the congratulations of the Council to Surgeon-Major Hinton.

# THE LANCET.

*LONDON: SATURDAY, APRIL 19, 1913.*


## The Royal Commission on the University of London.

THE Royal Commission appointed to inquire into the present state of university education in London issued their final report on Tuesday last, and the document is so drastic and at the same time so far-reaching in its nature that we do not propose at the moment to do more than deal with a few general aspects of the case. That any criticism of the findings and conclusions of the Commissioners should be in the least helpful, it is necessary that there should be a close appreciation of their arguments, for in every word of the report proof can be found that it is a closely reasoned document. The Commission was appointed four years ago and a very strong *personnel* was chosen, consisting of Lord HALDANE, Lord MILNER, Lord Justice ROMER, Mr. LAURENCE CURRIE, Sir ROBERT MORANT, Sir WILLIAM M'CORMICK, whose work in the cause of education in Scotland is well known, Mr. E. B. SARGANT, the organiser of education in South Africa, and Mrs. CREIGHTON. The absence, however, of a London graduate in medicine from this body was felt to be an unfortunate omission. The terms of reference of the Commission were to inquire into the organisation of the present working of the University of London, upon the facilities for advanced education offered by it, upon the proper provision that should exist for teaching and research, and upon the methods which would best combine into a progressive university the incorporated colleges, the Imperial College of Science and Technology, and other schools and university institutions concerned. A report made by such Commissioners upon so difficult a subject was expected to be a document of the first value to education, and this it is, whether we agree with all its findings or not. For four years a small body of persons, well qualified, jointly and severally, to consider the general problems of education, have deliberated upon an extremely complicated problem, and in our opinion the result of their deliberations is both helpful and hopeful. That the report will cause apprehension and disappointment in some places, and even considerable chagrin in others, is undoubted. But to arrest the course of a long sickness painful remedies are very usually necessary, and valuable as much of the work of the University of London has been, there is no denying that it has for a long time been suffering from vagueness of aim, from want of coherence in its constituent parts, from poverty, and from multiplicity of antagonistic counsels. Should the recommendations of the latest Royal Commission be converted into an Act of Parliament with promptitude, and the necessary money be forthcoming, we believe that the University of London will shortly embark on a successful career; but there is no denying that many of those concerned in the education of the London medical student will find that the hardships of the position have not been sufficiently realised, and that any Bill framed upon the report will require modification in the light of their especially difficult circumstances.

The Commissioners have been unanimous in their recommendations, for which we cannot be sufficiently grateful. That this would be the case was, we think, foreshadowed by the character of the interim reports, which we have noticed on their appearance. Their main finding is that the whole organisation of the University as at present constituted is fundamentally defective, and not calculated to promote the highest interests of university education in London; and, further, they believe that it is not capable of developing on the present lines into a university such as the capital city of the Empire ought to possess. Such an expression of opinion sufficiently accounts for the sweeping nature of the advice which they give subsequently. The two main grounds of the defective organisation are stated to be:—first, that the present relations of the internal and external sides of the University are unsatisfactory; and secondly, that there exists in the University a combination of institutions differently related to it, and of different educational standard and aims, which cannot be made to work as a harmonious whole. Independent schools of the University, both general, professional, and technological, and "mixed" institutions in which a limited number of the teachers are recognised for University purposes, do not lend themselves to any known scheme of coördination. The want of money is not characterised exactly as a defect of organisation, but it is clear that some of the difficulties which have arisen in the past from the inability to secure harmonious grouping for bodies of divergent views and ideals might have been overcome, or greatly reduced, if the University had been in possession of substantial funds and had wisely administered them. We trust that the lesson here inculcated will be learned. Not only must money be found—the Commissioners suggest at least £99,000 per annum—but it must be spent upon the broad lines required for the realisation of the essentials of a university.

The question of medical education was found, as all our readers who are acquainted with its complications would have expected, to be one of the most difficult with which the Commissioners had to deal. The faculty of medicine has been treated by them, and rightly, as one apart, for the conditions of medical education, whether we consider the teacher or the taught, are not comparable to the conditions which prevail in other professional curricula. The Commissioners desire to see the preliminary scientific subjects form part of a school course; they propose no concentration into two or three institutes of instruction in anatomy, physiology, and pharmacology, recognising the obvious advantages of training the medical student in these early professional subjects at places where he is in touch with clinical and pathological work; and they recommend that university professors in the clinical subjects should be appointed, a recommendation that will entail the formation of university medical colleges.

The whole subject of the organisation of a faculty of medicine in London is closely and fully considered in the report, a summary of which will appear in our columns. It should be added that the Commissioners find that the grievance of the London student, that he cannot obtain a medical degree upon reasonable terms, entitling him to the style of "Dr.," must be left to remedy itself through the provision of a proper faculty of medicine in the University; while they describe the question of a one-portal system for qualified medical men as outside their terms of reference. Divergent opinion with regard to the medical faculty is unreconciled by the report. The position of the external student in relation to that of the London medical student is still the debatable point; and we trust that those who debate it will show full appreciation not only of past events but of present urgent needs.

## The Physiological Bearings of New Sources of Fat Supply.

IT is desirable, we think, that the attention of our physiological authorities should be drawn to the rôle of fat in the dietary with special reference to a change occurring in the fatty substances that are being supplied in increasingly large quantities to the public. It is important to realise that the supply of fatty foods is being revolutionised by the introduction of many varieties of vegetable fats which hitherto have found little or no place in the common dietary. The fats at one time available for human use were chiefly the animal fats as represented by beef, mutton, pork, and butter fat, while the only vegetable fat consumed to any extent was olive oil. But now amongst the oils and fats which are included as edible are bean, nut, and seed oils, of which there is a great and growing variety. Cocoanut oil is perhaps the best example of what modern processes of extraction and refinement have done towards bringing vegetable fats into dietetic prominence. In a recently published work[1] upon the subject of the examination of fatty foods the authors say of cocoanut oil that it is used to an enormous extent in every form of foodstuff to which a solid fat may require to be added, that probably no other vegetable fat is so extensively used or adapted to so many purposes, and that its use is daily increasing as a constituent, not only of margarine, but of cakes, biscuits, and sweetmeats. Further, they state that at the present day there is scarcely an animal or vegetable fat, which can be procured in quantity, that has not been tried or actually used in margarine, and even fish oils are being pressed into the service of the manufacturer.

This displacement of animal fats by vegetable or other fats in the diet of the human race raises questions of great physiological importance. The business of the vegetable fat refiner is a lucrative one, and it is not, therefore, likely to shrink. It is a question whether the multifarious displacement which is signified by such commercial enterprise is justified by physiological considerations. We may well ask whether the vegetable fats possess a physiological efficiency equal to butter fat, whether they are as digestible, and whether, generally speaking, in fact, they are equally suitable for the human organism. We are not able to gather any distinct evidence upon the points where it is particularly desirable that such evidence should be obtained, having regard to the enormous quantities of vegetable fats now consumed by the public, when hitherto animal fats occupied the dietetic field in a practical monopoly. We may well express doubt that because any oil or fat is highly refined, deodorised, and bleached it is necessarily suitable for the purposes of human consumption. We remember, indeed, that not so long ago a consignment of oil was used for manufacturing margarine, with the result that the mixture proved to be a drastic purgative. The oil, in fact, was poisonous. We are impressed further by a contemplation of the fact that no food products present so much diversity in natural composition as do the oils and fats, a diversity of character which has made the analysis of oils and fats both prolific of method and uncertain in result. According to the authorities we quote, the examination of butter and margarine presents the most difficult problem which the analyst of oils has to face. When the extreme variation and complexity which may arise in the production of the latter and the wide natural variations of the former are considered, coupled with the fact that adulteration usually consists in the admixture of the one with the other in certain quantities, the difficulties will be appreciated. It is true that a knowledge of the products on the market, ruling prices, and direct information often enable the investigator to solve the problem of margarine mixtures with reasonable certainty, but there is in a large number of cases absolutely no method of arriving at proof that the constitution of any sample of butter fat is due to sophistication and not to natural causes. "This natural variation has brought the analyst," write Mr. E. RICHARDS BOLTON and Mr. CECIL REVIS, "into the uncomfortable and unscientific position of having to fix limits of variation in dealing with butter fat, and the result, as always in such cases, is most unsatisfactory; but until some talisman be found which will distinguish the natural from the artificial this state of affairs will probably continue."

When it is recognised that these writers are experts upon the subject (one of them is, in fact, chief chemist to a large and well-known firm of dairy farmers), and that they have placed on record, in the book referred to, the results of many years' experience in the examination of edible fats, it is obvious that their observations cast doubt upon the value of chemical analysis as a means of effective control. The whole question of the supply of butter and butter substitutes, therefore, seems to us to call for careful special inquiry, inasmuch as the recourse to new fatty materials for the purposes of admixture may have a serious dietetic meaning for the public at large. To change our source of fatty foods from the cow to the cocoanut appears to us to be a policy which should not be left in the hands of manufacturers; the matter should be referred first to physiological authority. We have heard of a specimen of milk showing an excellent proportion of fat, which, however, on careful analysis was shown not to be milk fat at all, but foreign vegetable fat. We desire assurance

[1] Fatty Foods, their Practical Examination. By E. Richards Bolton, F.C.S., and Cecil Revis. London: J. and A. Churchill. 1913. Pp. 371.

that milk in which the natural fat has been replaced by a "hydrogenised oil" is physiologically equal to the normal mammalian secretion. Generally speaking, physiologists assert that the animal fats have a higher nutritive power than those derived from vegetables—suet, butter, and cream being regarded as the most serviceable of all. We have no evidence that this assertion has been controverted by scientific authority, and until that is the case the question of the suitability of the vegetable fats for human consumption or of their fitness to replace animal fats on all counts must be regarded as an open one.

# Annotations.

"Ne quid nimis."

## THE INTERNATIONAL CONGRESS OF MEDICINE.

THE Seventeenth International Congress of Medicine will be held in London this year from August 6th to 12th, inclusive, under the patronage of H.M. the King. H.R.H. Prince Arthur of Connaught has graciously consented to open the Congress as the representative of His Majesty. The opening meeting will be held in the Albert Hall at 11 A.M. on Wednesday, August 6th. The last meeting of the Congress in London took place in 1881, when Sir James Paget was president. This year the president is Sir Thomas Barlow, and the treasurers are Sir Dyce Duckworth and Mr. G. H. Makins. Sir Alfred Pearce Gould is chairman of the Executive Committee, Sir Henry Morris chairman of the Finance Committee, Sir Lauder Brunton chairman of the Reception Committee. There is also a Ladies' Committee, of which Lady Duckworth is chairman. The central office of the Congress will be located in the Albert Hall. The sectional meetings will be held in rooms in the University of London, the Imperial College, the Royal School of Science, the School of Art, and the Central Technical College. These bodies have generously placed their buildings, which are all close together in South Kensington, at the disposal of the Congress. The Royal College of Physicians, the Royal Society of Medicine, St. Thomas's Hospital, the Royal Army Medical College at Millbank, and the Royal Dental Hospital are also offering accommodation for sectional meetings. The Students' Union of the Imperial College will serve as the men's club, and the authorities of Alexandra House have kindly lent rooms for a ladies' club. There are in all 26 sections and subsections. Their sessions will be held in the morning and in the afternoon. The morning sessions will be devoted to discussions on fixed subjects, which will be introduced by eminent medical men from every part of the world, who have been specially invited for the purpose. The invitations have been very generally accepted, and there have been few disappointments. There seems no doubt that the discussions will be of great interest and importance. The work of the several sections will be noticed in future issues. Five general addresses have been arranged. These will be delivered by Professor Chauffard (Medicine), Professor Harvey Cushing (Surgery), Professor Ehrlich (Pathology), Mr. W. Bateson (Heredity), and the Right Hon. John Burns, M.P., President of the Local Government Board (Public Health). These will be delivered in the Albert Hall, where also will be situated the central offices of the Congress. It is estimated that there will be about 5000 medical men and 2000 ladies attending the Congress. The organisation of the Congress has been going on for nearly three years. It will give some idea of the magnitude of the task to state that it has taken a complete year to arrange the *personnel* of the various committees, and another complete year to settle the programme of the discussions in the sections. The latter was issued on Sept. 30th of last year.[1] There are several discussions for which two or more sections are combined. At the present time the reports drawn up by those chosen to introduce the discussions are being received and set up in type. It is hoped that all these reports, which will form the basis of the discussions, will be printed and bound as a separate volume for each section before Congress opens. A second volume for each section will be published subsequently containing the speeches delivered and the independent papers presented at the Congress itself. A circular will be issued on April 30th giving information on travelling facilities both to and in London, on hotels and boarding-houses, on the location of the various sections, and on other points likely to be useful to members. Early in June the final programme of the scientific business will be published, which will include the list of independent papers accepted by the sections, and the names of intending speakers. The office of the Congress is at 13, Hinde-street, W., where information may be obtained by applying to the general secretary. Subscriptions to the *General Fund of the Congress* should be forwarded to the treasurers of the Seventeenth International Congress of Medicine at the same address. It should be borne in mind that the membership subscription of £1 only suffices to meet the expenses of producing the volume of Transactions subsequently delivered to each member. The entire cost of organisation and conduct of the meeting has therefore to be provided for by private subscriptions to the general fund. A list of the subscriptions already received will be published shortly.

## THE HOSPITAL WITH A MEDICAL SCHOOL.

IN an annotation which we published recently, dealing with the subject of ventral fixation of the uterus, the following sentence occurs: "We have always thought that the best test of the legitimacy, if we may so term it, and necessity for any operation is the relative frequency with which it is performed by the surgeons attached to a large general hospital with a medical school—that is, in those conditions in which competent and honest criticism is not likely to be lacking." This sentence has been made the subject of forcible criticism by a well-known London surgeon, whose desire to withhold his name is quite justified by the feeling that, not being on the staff of a hospital with a school, his words might be thought to be due to some feeling of resentment or disappointment. With regard to the particular operations under discussion or whether certain enthusiasts perform them with undue frequency (although strongly of the opinion that many patients are sufferers in this respect), he says little or nothing, his objects being to direct attention to the particular sentence quoted above. "Is not the writer," he asks, "rather overwhelmed by the importance of a position at a teaching school which has apparently narrowed his surgical horizon, and is he justified in claiming that the best test or criterion of the legitimacy or otherwise of any operative procedure is whether it is performed at a large general hospital with a teaching school? The reason adduced for this claim is that honest and competent criticism is not likely to be lacking." Taken from its context the sentence which has given rise to his communication appears to reflect in an unjust and unnecessary manner upon the numerous institutions which do not possess medical schools, but although the wording employed is not fortunate this was not the intention of the annotation. It is hardly necessary to point out that many of the advances

[1] THE LANCET, Oct. 19th, 1912, p. 1116.

of surgery in all its departments have resulted from the work in special hospitals without teaching schools. And it must be allowed that over-enthusiastic operators are to be found in large general hospitals with medical schools, in spite of any controlling influence which may exist. But the particular influence referred to was not the presence of the students. Criticism from the students who may, as our correspondent suggests, "naturally consider their teacher in the light of a king who can do no wrong," would not be of any help to a surgeon in deciding upon the employment of a particular procedure; but the criticism of colleagues in a large general hospital is always of the greatest value. All the numberless questions, medical, surgical, obstetrical, and biological, which may affect the advisability of adopting frequently some particular routine, can be debated with catholicity in a general hospital, while at a special hospital a narrower outlook must be taken. It is not the presence of the students that supplies the valuable collaboration which an operator may get at a large general hospital, but the presence of colleagues not engaged in the same special work. We are obliged to our correspondent for the courteous way in which he has brought the subject to our notice. The truth is that the general hospital and the special hospital alike have their places in our scientific evolution.

## THE UDAL TORRE SANATORIUM INCIDENT.

THE power of exacting strict discipline is so essential in a medical superintendent of a tuberculosis sanatorium that without it no amount of professional ability, experience, and industry will produce their full effect. At a time when sanatorium treatment was within the reach of the affluent alone this fact was conspicuously apparent, for the most successful medical superintendents were the martinets of more than military rigidity. There are plenty of reasons for this state of things—reasons which any intelligent observer of the interior economy of a sanatorium can formulate. And necessary as discipline is within a sanatorium where the patients are gently nurtured and more or less well educated, it is indispensable where many of them are neither. That is not to say that the same methods of maintaining authority will answer in the two cases. Far otherwise in fact; a greater fund of tact, and all that is summed up in the word character, will be required in dealing with the half-educated than with those who can signify their displeasure by withdrawing a patronage which is materially important. Now of all the "difficult" people to manage in a sanatorium, we can conceive of none so likely to get out hand as insured persons of Welsh nationality, especially when transferred to districts far from their friends and the land of their fathers. Docility was not exactly to be expected of all the patients at Udal Torre; but it would seem that the much talked of revolt was largely a matter of impulse rather than of preconcerted rebellion. A government inspector has investigated the whole matter, and his report shows that most of the alleged grievances were fanciful if not imaginary, though some of them are admitted to have had foundation. The report has evidently been drawn up after a full and fair examination, and may be accepted, we hope, as disposing effectively of the major criticisms which were levelled at the management of the sanatorium. Still, the fact remains that some of the patients got out of control; and with the multiplication of sanatoriums far and near in the land, it is not improbable that similar incidents may recur. The personality of the superintendent must always remain the best safeguard against indiscipline. But there is no way of assessing that elusive quality by examination tests; and no way of acquiring it, though no doubt a military training can help to cultivate it. In the nature of things, therefore, no rules can be laid down for the preservation of the right tone in a sanatorium. To quote a single instance in point, there is a system at a certain very well managed working men's sanatorium of serving the medical officers' table (and that of all the staff, in fact) with identically the same food as the patients themselves get. This effectively stifles baseless complaints about the kitchen department, for the patients can see the doctors' food taken from the same vessels as their own. Yet we doubt whether the plan is really sound, and certainly a forceful superintendent can get along without adopting it. So it is with every detail of sanatorium management: a strict disciplinarian can make his own rules, and no ready-made code will suffice to replace a strong personality at the head of affairs. If that lesson sinks a little deeper in, the storm in a teacup at Udal Torre may have done more good than harm.

## IS YELLOW FEVER STILL ENDEMIC IN JAMAICA?

TIME was when yellow fever was almost continuously present in Jamaica, bursting out in epidemic form when any new body of troops or warships arrived at the island, but generally smouldering on in endemic fashion between the outbreaks. At the end of the eighteenth century the ravages of this disease were very great, the chief sufferers being the susceptible subjects who had lately reached the colony from Europe. About this time, it is stated by one writer of repute, there were "cut off" in four years among the European garrison no fewer than 3500 men, "chiefly from yellow fever." In recent years a great change has been wrought, and the malady has since been regarded as no longer existent in Jamaica. The last recorded outbreak occurred in 1897, when 76 fatal cases were certified, with nine more in the following year. From 1898 to 1912 only 10 deaths have been attributed to yellow fever in the island, the last fatal case being registered in 1904. In 1910 the late Sir Rubert Boyce, when writing upon yellow fever in the West Indies, said that vast improvements had been made in sanitary administration, with the result that endemicity of yellow fever in Jamaica had been stopped. The whole question has now, however, been re-opened by a report[1] presented to the Colonial Office by Captain T. J. Potter, R.A.M.C., who at the instance of the Jamaican Government made a special inquiry into "vomiting sickness," a name given by the natives to illness in which vomiting is a prominent symptom. The term, it may be added, has of late years been used even by local practitioners to indicate a febrile ailment in which vomiting is a leading feature. Captain Potter's inquiry showed that the so-called "vomiting sickness" occurs largely among the black population, and especially among black children, and that it is often fatal. During the first three months of 1911 he personally investigated upwards of 70 cases, some of which, however, were found to be instances of other diseases, such as cerebro-spinal fever, food poisoning, and the like; but there remained 38 cases, 21 of which proved fatal, that could not, in Captain Potter's opinion, be anything else but yellow fever. His conclusions were based, it appears, upon the clinical characters of the illness, and supported in certain instances by the post-mortem appearances. He therefore asserts that there is no justification for the use of the term "vomiting sickness"; it is not a clinical entity, and many of the cases so designated are actually yellow fever. One of the popular alternative names in Jamaica for "vomiting sickness" is "black vomit," a term closely identified with yellow fever, "vomito negro" being the usual name for that disease among the Spanish-speaking inhabitants of the shores

[1] This report is published in the recently issued report of the Advisory Committee for the Tropical Diseases Research Fund for the year 1912. H.M. Stationery Office. 1913. Price 2s. 3d.

of the Gulf of Mexico and elsewhere. As showing the amount of this so-called "vomiting sickness" that prevails in Jamaica, Captain Potter obtained a return which stated that during the first five months of 1911 no fewer than 223 cases came under observation, 126 of them being referred to one parish. Some of the facts collected by Captain Potter vary somewhat from the experience of other observers. The usual yellow fever season is said to be from April to September, but the cases recorded above by Captain Potter were mostly prior to that period of the year. Again, many authorities state that endemic yellow fever among the coloured races is generally a mild disease, especially in children; but we gather that in Jamaica many of those who are attacked are black children, and that a number of them die. On the other hand, there are some recorded facts which appear to support his views. For example, in an army departmental report published in 1908 reference is made to the occurence of a local five to nine days' fever in Jamaica, its leading characters being severe frontal headache, vomiting, an icteric tinge of the skin and conjunctivæ, and albumin sometimes found in the urine. Paratyphoid fever had been excluded, as also papataci fever, there being no phlebotomus flies on the island. It is unfortunately true that the symptoms and post-mortem appearances of yellow fever vary greatly in individual cases, and that none are sufficiently constant to be regarded as pathognomonic. So that the definite diagnosis of yellow fever, and especially among a black population, is attended with extreme difficulty. Up to the present time the specific organism of the disease has not been satisfactorily identified and isolated, so that bacteriological confirmation of the diagnosis cannot be maintained. It may be mentioned that the paraplasma flavigenum discovered by Dr. Harald Seidelin is being tested by other experts, but it is too early to say as yet that it is the parasite of yellow fever; if his claims be substantiated an enormous advance will be made and the diagnosis greatly aided. The opinion that yellow fever is still endemic in Jamaica has not been allowed to pass unchallenged by the medical men of the colony. In particular, Dr. Angus G. Macdonald,[2] medical officer of health of Kingston, the capital of the island, has with some vehemence disputed the conclusions of Captain Potter, dwelling particularly upon the absence of any typical examples among the alleged yellow fever cases investigated in the first quarter of 1911. He also suggests that possibly "vomiting sickness" may be due to a tick infection introduced into Jamaica since yellow fever disappeared. In this connexion he urges further investigation by local experts. It was obvious that so important a dispute could not be left in this undecided state, and it is satisfactory to learn that the Colonial Office has already ordered a further inquiry to be conducted by a commission of experts, and that bacteriological investigations will also be carried out on the spot.

## A FOOD CONGRESS AT GHENT.

AN international exhibition is to be held in Ghent this year, and the occasion has suggested the convening of an international congress on questions relating to food adulteration. The date of this congress has been fixed for the first three days of August. The regulations under which the proceedings are to be conducted have been issued and an agenda of the subjects for discussion formulated. It is the view of the organisers that subjects should be approached not so much from a scientific as from a social standpoint. Amongst the topics which have already received a place for discussion are the protection of food substances from dirt, the regulation of the manufacture of table waters, the adoption of official methods of analysis for foods, the control of the sale of milk, the desirability of including in any scheme of education instruction about the nutritive values of foods, the question of the sale and production of foods in places where there may be persons suffering from infectious disease, the control of the use of preservatives, and the enforcement of regulations providing for the washing of glasses in public-houses. The work of the whole congress is divided into four sections: (*a*) chemistry, (*b*) hygiene, (*c*) popular education on food and cognate subjects, and (*d*) legislation. From a list which has reached us the congress has already received a distinguished patronage, including Government officials and members of the learned professions.

[2] Is Yellow Fever Endemic in Jamaica? A paper read before the Jamaica branch of the British Medical Association in December, 1912. Presented to, and ordered to be printed by, the Mayor and Corporation of Kingston.

## COXALGIA IN CHRONIC APPENDICITIS.

IN the *Maryland Medical Journal* for February Dr. Thomas R. Brown has discussed a symptom of chronic appendicitis which has received little attention—coxalgia. As chronic appendicitis is often attended by slight local symptoms, its diagnosis is difficult and depends on the correlation of many signs and symptoms, each of comparatively slight importance. Coxalgia occurs in a certain proportion of cases and is of great value in the diagnosis. The nature and extent of the symptoms of chronic appendicitis depend somewhat on the lesions in the appendix, which may take the form of adhesions, obliteration of the lumen, erosions, torpid ulcers, or cysts, but far more on the direction in which the appendix points, whether towards the gall-bladder, urinary bladder, or thigh, and on the association of the disease with splanchnoptosis, which Dr. Brown has found very common. There may be no local symptoms, and a clinical picture typical of neurasthenia may be presented or one of gastric or intestinal dyspepsia, or cholelithiasis or cholecystitis may be simulated, or the main symptom may be pain in the right hip or pain on micturition, or a combination of both. In a series of 20 cases of chronic appendicitis diagnosed as such and verified by operation Dr. Brown found that in three the main symptom was pain in the right hip (appendicular coxalgia). In one the pain was so intense and long standing, and so definitely related to exertion, that tuberculous coxitis was suggested. In each of the three cases there was splanchnoptosis of the highest grade, and the appendix, cæcum, and a portion of the transverse colon were tightly bound down to the abdominal wall and pelvic floor. In chronic appendicitis coxalgia may be absent altogether, or it may be absent when the patient is at rest and noted after walking and increased by flexion of the joint. The question arises, How can the coxalgia of chronic appendicitis be distinguished from that of latent tuberculosis of the hip-joint? In both there may be slight remittent pyrexia, rarely reaching 100° F. In the differential diagnosis skiagraphy after administration of bismuth is of paramount importance. In chronic appendicitis it shows binding down of the intestines in the cæcal region with sluggish motility and marked bismuth retention, the hip-joint being normal. Blood examination also is useful. Dr. Brown found a leucocytosis of from 10,000 to 16,000, though rarely exceeding 13,000, with neutrophiles from 75 to 85 per cent., in chronic appendicitis, while leucopenia with relative mononuclear increase occurred in tuberculosis. In one case the pain in the hip was so marked that several surgeons diagnosed coxalgia secondary to relaxation of the sacro-iliac joint. However, skiagraphy showed dense adhesions binding down the appendix, cæcum, and ascending colon to the lateral and posterior peritoneal surfaces. The abdomen was opened and adhesions over the head of

the colon were divided. The base of the appendix was closely adherent to the cæcal wall. The appendix was directed posterior to the cæcum with its tip over the pelvic brim. It was found densely adherent throughout its whole extent, the tip being acutely flexed and bulbous. The ileum in its last three inches was kinked by a band of adhesions drawing it posteriorly and towards the cæcum. The appendix was removed, the adhesions about the ileum were released, and the resulting raw surface was covered as far as was possible without reproducing the kink in the ileum. An interesting point is the frequent association of chronic appendicitis without definite local symptoms with general splanchnoptosis. In considerably more than half of the 20 cases a greater or less descent of the abdominal organs was found, and in many this was very pronounced, so that the cæcum and a large portion of the transverse colon were below the pelvic brim. Whether the chronic appendicitis is primary or secondary to the ptosis of the intestines with the associated interference with the circulation and intestinal stasis, or whether the latter leads to a local peritonitis in which the appendix is involved, cannot be said. Not only was coxalgia the predominant symptom in three of the 20 cases, as stated, but it was present in many of the others. Hence coxalgia, especially if associated with splanchnoptosis, should suggest the possibility of chronic appendicitis with ileo-cæcal adhesions as the cause, and the case should be investigated on the lines described above. As to the cause of the coxalgia, it appears to be due to the mechanical effect of the dense adhesions. The direction in which the appendix points and the nature, extent, and position of the adhesions seem to be the determining factors whether coxalgia occurs or not.

## SIR THOMAS BROWNE ON SUPERFŒTATION.

THE report that the wife of a working man at Furness has given birth to children at an interval of six weeks between the two parturitions would not have appeared at all incredible in the seventeenth century. In his "Enquiries into Vulgar and Common Errors" Sir Thomas Browne stated his belief that hares were prolific through a habit of superfœtation. "An higher providence of nature," he avers, "especially promotes the multiplication of hares by superfœtation—that is, a conception upon a conception, or an improvement of a second fruit before the first be excluded, preventing hereby the usual intermission and vacant time of generation." Aristotle, Herodotus, and Pliny refer to this alleged fact, and "we have often observed," says Browne, "that after the first cast, there remain successive conceptions, and other younglings very immature, and far from their terme of exclusion. No man need question this phenomenon in hares, for the same often occurs in the case of women." "Although it be true," continues our author, "that upon conception the inward orifice of the matrix exactly closeth, so that it commonly admitteth nothing after; yet falleth it out sometime, that in the act of coition, the avidity of that part dilateth itself, and receiveth a second burden, which if it happen to be near in time unto the first, they commonly doe both proceed unto perfection, and have legitimate exclusions, periodically succeeding each other. But if the superfœtation be made with considerable intermission, the latter most commonly proves abortive; for the first being confirmed, engrosseth the aliment from the other." Julia, probably the wife of the young Marcellus and afterwards of Agrippa, and of Tiberius, is cited by Browne as a person fully cognisant of his theory of superfœtation. "The project of Julia seems very plausible, and that way infallible, when she received not her passengers before she had taken in her lading." Her lovers were Sempronius Gracchus and Julius Antonius, of whom Tacitus has something to say in his Annals. We, of course, mean no sort of disrespect to the mother in Furness when making mention of the notorious Julia.

## POISONS IN DOMESTIC BOTTLES.

A CIRCULAR has been issued to sanitary authorities by the Local Government Board directing attention to the Order in Council prescribing that as from May 1st, 1913, all liquid preparations sold as carbolic or carbolic acid or carbolic substitutes or carbolic disinfectants containing not more than 3 per cent. of phenols shall be substances to which Section 5 of the Poisons and Pharmacy Act, 1908, applies. The Local Government Board have recently had under consideration the danger to life attending the distribution of poisonous liquid disinfectants—e.g., preparations of carbolic acid—in receptacles such as beer bottles, ordinarily used for liquid intended for consumption. Instances have occurred of omission on the part of local authorities to observe, in the distribution of such disinfectants, the provisions in regard to the shape and marking of bottles made applicable to the retail sale of liquid poisons by the Poison and Pharmacy Act, and by regulations made by Orders in Council. It is pointed out that the precautions which are enforceable when carbolic acid or a liquid preparation containing it is sold should be observed generally in the gratuitous distribution of disinfectants by a local authority, or in the use of such by their officers, whether the preparation contains carbolic acid or any other poisonous constituent.

## RUPTURE OF THE TENDON OF THE BICEPS DUE TO MUSCULAR ACTION.

In the *Gazette Hebdomadaire des Sciences Médicales de Bordeaux* of Feb. 9th Professor H. L. Rocher has reported a case of an unusual accident—rupture of the tendon of the biceps muscle due to muscular action. A printer, aged 46 years, while trying to lift a lithographic stone weighing 150 kilogrammes, suddenly felt something crack in his right arm, heard a sound like that of the tearing of cloth, and had the sensation of something running up the arm. He at once lost power in the arm as if it was broken. He supported the elbow at an acute angle with the left hand, because if he tried to extend it he felt acute pain. Eight hours after the accident he came to hospital. On examination he was a muscular man, with a swelling of the size of a mandarin orange in the middle of the arm on its anterior aspect. The swelling felt like muscle at rest and was moveable in all directions, but especially transversely. On active flexion of the elbow it ascended towards the shoulder and became more globular and firmer, without, however, attaining the firmness of muscle in a state of contraction. Below the swelling the forearm was abnormally flat as far as the elbow-joint. There was no ecchymosis or hæmatoma. All passive movements of the arm were normal, and only active flexion of the elbow-joint was lost. Rupture of the biceps tendon was diagnosed, and immediate operation was decided upon. Under chloroform a median incision was made in the lower half of the arm. The aponeurotic sheath of the biceps was intact. It was opened and found completely empty; the tendon, floating about, could just be perceived above. On drawing it down the muscular globe formed by the retracted biceps was found lodged in the upper part of the sheath and free from any tear. After careful examination of the bicipital tuberosity of the radius it was found that the tendon was not ruptured in its continuity, but torn off the bone. The end of the tendon was a little spread out.

It was cleanly torn off, and had not carried with it any fragment of bone. The tendon was reimplanted by means of three silk sutures which were passed through its extremity, and as low as possible through the aponeurotic sheath which accompanied the tendon to its insertion into the radius. The anterior aspect of the arm then assumed its normal appearance. The opening in the biceps sheath was united with catgut, and the wound in the skin was closed. The limb was supported with the elbow flexed at an acute angle. Union by first intention took place. The arm was kept in a sling for six weeks, so as not to stretch the scar in the tendon. Then massage and electrical treatment were adopted. Six weeks later the biceps, which had diminished to half its normal size, had regained three-quarters of its volume, and its power was progressively returning.

## THE POTATO.

THOUGH the poisonous alkaloid and glucoside known as solanine is a normal constituent of the healthy potato, references to toxicological literature fail to furnish any decisive evidence that the tuber has caused any widespread or serious illness. In these days, when alarming symptoms of poisoning may sometimes be traced to food in which, for some mysterious reason, the poisons known as ptomaines have elaborated themselves, it is just as well when searching for the *fons et origo mali* not to forget the potato, for under certain conditions solanine may be found in unusual quantity, and this alkaloid may set up the usual disturbances which are characteristic of an irritant poison. In the normal potato the amount seldom exceeds 0·01 per cent., but this may easily be exceeded in the diseased potato. Sprouting potatoes seem to contain a more than usual quantity of alkaloid, while it is also more likely to be present in the immature potato. Thus the potato residues, consisting probably of sprouting potatoes, from a distillery have been found to be responsible for the occurrence of poisonous symptoms in cattle, and solanine was separated from the mash by analysis. It appears to occur in larger proportion in the peel, so that there may be reasons for avoiding the "jacket." Though not very soluble in water it is probable that boiling removes some of the alkaloid. As we have stated, however, there is little in toxicological records which amounts to a serious indictment against the potato, and the small doses which occur are stated by some authorities to be an excellent sedative, more efficacious in long-standing neuralgia, especially when neuritis is present, than either antipyrine or antifebrin. We have little doubt that oftentimes a judicious diet of potatoes would be of greater benefit to a good many self-physicking people than a dose of some antipyretic substance which they regard as adapted to relieve all headaches whatsoever their origin.

## A TYPHOID CARRIER STATE IN RABBITS.

THE importance of the part played by typhoid carriers in the spread of the disease among mankind is now generally recognised, and consequently any light that can be thrown on this condition by experimental research, and especially anything tending to indicate the best method of treating such carriers, is of much clinical interest. In a paper recently published in the *Journal of Medical Research* [1] Dr. John Anderson Johnston records some results obtained in artificially producing in rabbits a "carrier" condition. He inoculated these animals intravenously with a suspension of typhoid bacilli in saline solution and then examined their blood and fæces for signs of infection. The organisms began, as a rule, to appear in cultures from these materials in from seven to ten days; indeed, in two instances a diarrhœal affection started within two days and the bacilli were found in the stools. The rabbits were then vaccinated with dead cultures of the organisms, and the bacilli disappeared within a space of 30 to 60 days from the original inoculation. Of seven vaccinated animals which came to necropsy five were entirely negative with respect to cultures of these bacilli, while the two from which they were obtained had both died within a short time of being treated. On the other hand, of 11 vaccinated animals all but one showed the presence of bacilli, though five did not harbour them in any part except the gall-bladder. Similarly, in two animals in which the bacilli had disappeared, so far as cultures from the blood and fæces went, during life, puncture of the gall-bladder gave positive results. It is thus shown that in the rabbit, as in man, the gall-bladder is a seat in which the organisms may persist when they have elsewhere vanished. Further, in two animals in which the bacilli could no longer be found in the fæces the administration of a dose of ox bile, which caused an attack of diarrhœa, was followed by their reappearance, just as catarrhal conditions of the bowel may in man give rise to renewed excretion of typhoid bacilli in the stools. From these experiments it would seem that vaccination is indicated in all cases in which a carrier state exists in human beings, and that careful examination of the fæces should be made in all cases of typhoid fever, just as the throat is swabbed after an attack of diphtheria, to ascertain that the organisms have ceased to be excreted by this route and that the convalescent is no longer, so far as can be discovered, a source of danger to others.

[1] Journal of Medical Research, November, 1912, vol. xxvii., No. 2, p. 177.

Dr. William Brown will give a public lecture on Abnormal Psychology at King's College (University of London) on Wednesday, April 23rd, at 4 P.M. Professor W. D. Halliburton will be in the chair.

# FREUD'S THEORY OF DREAMS.[1]

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### I.

WHEN the secretary of the Listerian Society very kindly invited me to read a paper on something of medical interest connected with the science of psychology, Professor Sigmund Freud's psychiatrical system at once occurred to my mind as the most suitable theme for such a discourse. Not only are his views winning ever wider acceptance among leading psychiatrists of all nationalities at the present day and justifying themselves by practical results, but they are also very good illustrations of the help which strictly psychological methods of thought may bring to the science and art of medicine.

Theoretically the connexion between psychology and medicine must be a very close one. Only on the theory of materialism can its importance be denied. According to this view psychical process is merely the result of physiological process occurring in different parts of the cerebral cortex. All mental disease would therefore be merely the effect of cerebral disease, and consequently attempts to cure by mental methods would involve the absurdity of treating the symptoms of the disease and not the disease itself. But by far the greater number of thinkers qualified to pass a reasoned judgment upon this question of the relation of mind to brain agree in rejecting the materialistic view. The two other alternative theories of the relation—viz., interactionism and parallelism, both give great scope for the use of mental methods in therapeutics. This is obvious in the case of interactionism, according to which the mind is an entity distinct from and partially independent of the brain,

[1] A paper read before the Listerian Society at King's College Hospital on Jan. 21st, 1913

exhibiting laws of action not entirely identical with the laws of brain activity. But it is equally true for parallelism. The theory of psycho-physical parallelism states that there is a point-to-point correspondence between changes in certain parts of the cerebral cortex (and possibly other parts of the brain) and changes in consciousness. For every occurrence in consciousness there is some corresponding physiological change occurring in some part of the brain. There is, however, no relation of causality between the physical and the mental series of events. Rather are these series to be regarded as different sides or aspects of the same real process. But if this be so, change in the real process can be produced from without—i.e., by external agency—from either of its two sides, the physical or the psychical, indifferently. Mental disease is also cerebral disease, but it is quite as legitimate to attempt to produce a change on the mental side by mental means as to produce a physical change by physical means. A mental change, *eo ipso*, involves or brings along with it a corresponding physical change in the brain and *vice versâ*.

Whichever theory we adopt, one thing at least is clear—namely, that our knowledge of mental processes is very much more precise and complete than our knowledge of the corresponding processes in the cerebral cortex, and explanations of mental disturbances in terms of memory ideas, imaginations, desires, and wishes are really more logical than those in terms of hypothetical nerve cells and nerve fibres so beloved by some physiologists. It is quite possible, and on the parallelist hypothesis it is more than probable, that ultra-microscopical changes in the cerebral cortex accompany all cases of so-called functional mental disease, where gross lesions of the brain have not hitherto been demonstrated, but ignorance of them need not deter us from formulating psychological theories which may justifiably claim to explain the changes that *are* observable—viz., the mental disturbances of the patient.

It may cause surprise to some of my hearers that I have chosen Freud's Theory of Dreams as the special subject of my paper, but I have done so for very good reasons. In the first place, it is a fact, emphasised again and again by Freud himself, that this theory is the central core of his whole system of psychiatry, and the one that during the lapse of years he has found least reason to modify. It is through a study of dreams that we can alone arrive at an adequate and direct appreciation of the nature of the *unconscious* and of its significance for the conscious mental life. In the second place, the now famous method of "psycho-analysis," introduced by Freud and elaborated into a definite technique by Jung, is most easily understood and most convincingly justified in Freud's scheme of dream interpretation, in which it plays a prominent part. Finally, dreaming is a normal function of the mind, and may therefore be safely discussed by a psychologist who can lay claim to no first-hand knowledge of pathological cases. Yet if Freud's theory be true that dreams are formed according to the same fundamental laws that produce the symptoms of hysterical patients, a careful study of the former must add very considerably to the intimacy and effectiveness of our knowledge of the latter. A psychologist is only entirely within his own domain when he is face to face with facts of consciousness. These he can only observe within himself, and his dreams (together with what is added to them by psycho-analysis) may therefore give him an insight into the nature of hysteria which according to any other theory of the disease must be denied him so long as he remains normal.

The outlines of Freud's theory of dreams are well known. Every dream is the fulfilment of some wish. In the great majority of cases the wish is one that has been repressed by the waking consciousness, and its fulfilment in the dream is disguised according to rules that are both complicated and diverse. It is for these reasons that the general law has so long escaped notice, and scientists have been so ready to deny all significance to dreams. This state of things is inevitable so long as attention is restricted to the dream simply as it appears in consciousness and as it is remembered by the dreamer. But corresponding to this "manifest content" of the dream there is a "latent content" which constitutes its meaning, and when discovered by the method of psycho-analysis is found invariably to be the fulfilment of some wish. The manifest content is made up of memories from the past life of the dreamer, patched together in apparently quite random order and according to the most superficial laws of association. The laws of rational connexion, especially those of causation, which dominate waking consciousness, seem to be in abeyance, and in their place the only laws of connexion observable are those of association by contiguity and association by similarity. As a general rule the memories most commonly aroused are those of the "dream-day" (the day before the dream) and those of early childhood. Memories of the dream-day form part of every dream without exception. Actual bodily disturbances, either of the external sense organs or of the internal organs are, when not too intense, incorporated in the dream though in a disguised form. In this way every dream may be regarded as fulfilling at least one wish—viz., the wish to go on sleeping. If these actual stimuli were recognised for what they are the dreamer would no longer be asleep but awake, and this is what happens when they become too intense. Thirst arising during sleep may produce the dream-experience of drinking water in huge draughts. In this way are fulfilled the two wishes, to continue sleeping and to drink. Other bodily needs arising during sleep may receive imaginary satisfaction in the same way. Instances like these illustrate very clearly the function of dreams in acting as the guardians of sleep.

Freud relates an amusing story of a medical student who was very fond of his bed, and could only with the greatest difficulty get up in time for his work at the hospital. One morning on being called by the maid, who shouted through the door, "Get up; you must go to the hospital," he half awoke, and then proceeded to dream of a ward in the hospital in which he found himself lying upon a bed with a card hung over the head of it stating his name, age, and occupation. Remarking to himself: "Since I am already in the hospital I do not need to get up and go there," he turned over and continued his sleep.

Numerous instances may be quoted in which the fulfilment of a wish appears in the dream in clear and undisguised form. The dreams of young children are almost invariably of such a nature. Desires, of which the satisfaction has been denied them during the day, again and again appear as fulfilled in the dreams of the following night. This kind of evidence is obviously of the highest importance for the theory of dreams, since the child's consciousness shows the laws of mental process in their simplest and most fundamental forms. The wish-fulfilments of adults are as a rule expressed somewhat less directly, even when they do not belong to those unconventional and consequently "repressed" forms which will engage our attention more fully presently. Recently, while working for a medical examination which it was most important that I should pass at the very first opportunity and for which I had been able to find very little time for preparation, I dreamt one night that someone showed me the examination paper, although it was some days before the date of the examination. Not until some time after the dream did I realise its true significance and its connexion with my intense desire to pass. On another occasion, while anxiously waiting for the appearance of certain reviews which I had written for one of the daily newspapers, I dreamt that I received yet another batch of books from the same source. This dream was evidently a slightly indirect fulfilment of my wish that the other reviews of mine had not miscarried and would shortly appear.

Instances of such clear wish-fulfilments in dreams must be frequent in everyone's experience, and it may with some degree of plausibility be objected that they do not necessitate any theory more elaborate than the one most generally accepted—viz., that dreams are simply the revival, in chance order, of memories aroused during the condition of sleep. For the imagined fulfilment of wishes may reappear as memories, just as other forms of consciousness do. Freud, however, does not admit this, since he finds that every kind of dream, whatever the nature of the memories which unite to form its "manifest content," shows under the treatment of psycho-analysis a clear reference to the fulfilment of a wish or wishes, which often gives the dream an entirely new aspect.

The method of psycho-analysis is simply a method of free association. The subject whose dream is being interpreted is asked to adopt the mental attitude of meditative expectancy, and in this frame of mind to consider the parts of the dream one after another and say just what ideas

spontaneously occur to him in connexion with each. It is essential to the success of the method that he should rigidly keep in abeyance any tendency to criticise, modify, or reject any of these ideas as they arise, and that he should make a faithful record of all of them, however absurd or objectionable some of them may appear to be. The ideas which thus arise by free association will be found all to converge to one system of ideas concerned with the fulfilment of a wish. This system of ideas is the "latent content" of the dream, or the "dream-thought," and gives the dream its meaning and its *raison d'être*. The wish involved in it is one that is not in harmony with the conventional and ethical ideas of the developed personality, and is therefore entirely repressed during waking consciousness and can only attain realisation in the dream consciousness of sleep in underhand and roundabout ways which have still to be described.

The repressing factor in the waking consciousness is named by Freud the *endopsychic censor*. The term is somewhat figurative, but lends itself well to the purposes of vivid description. In sleep this censor is still active, though not to the same degree nor with the same watchfulness. If only the repressed wish can disguise itself sufficiently, it may succeed in slipping past him unnoticed, and so rise into the half-light of dream consciousness. Before discussing in detail the various ways in which the wish may accomplish this disguise, and which Freud classifies under the general heading of *Traumarbeit*, or dream work, I will give a description of one of his own dreams, together with a summary of its psycho-analysis.[2] I must, however, first summarise his preliminary explanation which alone makes the dream intelligible.

Freud heard in 1897 that two professors of his university had proposed him for the position of professor extraordinarius, election to which he doubtless greatly desired. After receiving this news, and on the day before the dream, a colleague, who had for some time waited without result for the success of his own nomination to a similar professorship, visited him and told him that he had at last gone to a high authority about the matter and had learnt that his non-success was due to his religion and nationality. Freud suffered from the same disadvantages, and so might on this score draw but a discouraging conclusion from the news as to the probable fate of his own nomination. "On the morning after this visit," writes Freud, "I had the following dream ..... I. Friend R. is my uncle. I feel tender affection for him. II. I see his face somewhat altered before me. It is, as it were, drawn out lengthwise, a yellow beard which surrounds it stands out with exceptional clearness."

At first Freud was inclined to dismiss the dream as an absurdity, but remembering that in the case of his own patients this tendency often indicated that the meaning of the dream was a disagreeable one and such that the person was loth to admit even to himself, he proceeded to analyse it, pondering over it sentence by sentence and noting what ideas occurred to his mind while doing so. It then became clear to him that the face was, as it were, a composite photograph of the friend of the previous evening's conversation and one of his uncles, who had been unfortunate enough to come within the arm of the law. His father was in the habit of attributing this uncle's downfall not to wickedness but to weakmindedness. Consequently the dream purports to say that his friend R. is weakminded or stupid, like his uncle. Further reflection brings to light the memory of a conversation with another colleague who had likewise been unsuccessfully nominated for professor and who attributed his failure to an accusation brought against him by one of his patients. The courts had dismissed the charge as entirely unfounded and malicious, but the incident could not fail to injure his prospects. The meaning of the dream is now clear. The uncle represents just those two colleagues of Freud who had been unsuccessful in their nominations for professorships. By disingenuously insinuating that one of them is stupid and the other a criminal the dream clears the way for the success of Freud's own nomination, since on these assumptions the fact of his religion need not weigh against him. The dream represents the *wish* that this might be the real state of affairs—a wish that Freud would not for a moment entertain in the waking state or even in manifest form in a dream.

The tender affection experienced in the dream still needs explanation, since it is much more pronounced than that which Freud had ever felt for his uncle or for his friend. Reflection shows that it does not belong to the latent content. It is directly contrary to this content and eminently adapted to hiding the full significance of the dream-thought from the dreamer himself. This indeed is its real purpose. By changing the appropriate feeling-tone of the latent content into its opposite the wish has succeeded in evading the censor and achieving its own dream-fulfilment.

Other ways in which the latent content may disguise itself are by transferring the feeling-tone from one part of the manifest content to another, by altering the emphasis of different elements in the manifest content, so that a prominent element corresponds to an unimportant part of the latent content, and conversely, and, above all, by the use of symbolism. This symbolism is, to some extent, different for different persons, and also for different nationalities, since it partly depends upon the chance associations of experience and upon the similarities of words representing different objects. But some symbols would seem to be common to the majority of people, especially in matters connected with sex. Sexual relations may be represented by walking up and down stairs, by flying, or by journeying in a train or other vehicle. Entering into water may symbolise, by opposites, the fact of birth. Hats and shoes in dreams often have reference to sex. Many other symbolisms are met with which are too obvious to need mention here. Freud records the case of a woman who dreamt that she saw her fifteen-year-old daughter lying dead in a box, in which psycho-analysis showed that the latent content of the dream was a wish dating 15 years back that the child might die before it was born. This is a good illustration of the way in which wishes may persist for years in the unconscious uninfluenced by later experience.

In Freud's opinion a very large proportion of the repressed wishes which realise themselves in the dreams of adults originate in early childhood. They are also, he thinks, predominantly sexual in nature, the sexual mental life of the child beginning much earlier than scientists have generally supposed. The sexual inclinations may find their earliest objects in the parents, and then undergo vigorous repression as the result of further development and education. These repressed wishes may show themselves later in dreams, or, when very strong and very firmly repressed, may give rise to more serious symptoms. The attraction is accompanied by feelings of hatred and jealousy towards the parent of the opposite sex. These are repressed in the same way and for the same reasons, and may in later life produce dreams of the death of the father or the mother, as the case may be.

The legend of Œdipus, who unwittingly marries his own mother, Jocasta, and, though guiltless in intent, pays the penalty for this unholy act, is a mythical representation of this general tendency in human nature. Freud would explain the mystery of Hamlet in the same way. Hamlet is unable to take vengeance on the man who has supplanted and murdered his father because he himself in his early youth had wished his father's death. The wish has been vigorously repressed and he is at present unconscious of it, but it still exists in his unconscious and produces the inhibitory effects depicted in the play. Freud considers that repressed wishes of this nature are the principal factor in the production of all the psychoneuroses.

If we bear in mind that children's ideas of death are very vague and in most cases correspond simply to "permanent absence," the theory is not so outrageous as it might otherwise seem to be. The "naturalness" of family affection has undoubtedly been greatly exaggerated by earlier thinkers, and the passions of hostility aroused within the family circle are often very fierce. As the children grow up these feelings generally disappear and make way for the more conventional and intellectualised forms of sentiment, but deep down in the unconscious recesses of their souls persist the traces of earlier conflicts.

It may be thought surprising that such an immoral wish as that of death should ever succeed in passing the censor and attaining to a dream-fulfilment. Two facts sufficiently explain it. In the first place the wish is the last in the world that we should ever consciously entertain, and for this reason the censor is unprepared for its appearance. In the second place the wish-fulfilment is accompanied in the dream by a feeling of intense sorrow which seems to receive

[2] See Traumdeutung, dritte Auflage, S. 100–104.

a sufficient explanation in the anxiety for the person's welfare which the dreamer has genuinely felt in more recent times, especially during the dream-day, and which might be expected to persist as a memory in the dream. The real source of the sorrow is the fact that the censor has been overpowered.

These considerations suggest the probable explanation of all forms of *anxiety dreams*, which are accompanied by pain, and seem therefore in such flagrant contradiction to the wish theory. Freud writes:—

> The anxiety dream only occurs when the censor is partly or entirely overpowered, and on the other hand the overpowering of the censor is facilitated when anxiety as an actual sensory experience is already given from bodily sources. It thus becomes evident to what end the censor exercises its function and brings about the distortion of dreams; it does so *in order to guard against the development of anxiety or other forms of painful feeling* (p. 193).

And again in another passage (p. 171), distinguishing two types of anxiety dreams:—

> On the one hand, the anxiety in the dreams may be a psychoneurotic one, springing from psychosexual excitations, where the anxiety corresponds to repressed *libido*. In this case the anxiety, and the entire anxiety dream, have the significance of a neurotic symptom, and we stand on the borderline, where the wish-fulfilling tendency of the dream suffers shipwreck. In other anxiety dreams, however, the anxiety feeling is given in the bodily conditions (e.g., accidental difficulty in breathing, as in the cases of heart- and lung-patients), and then this feeling is made use of to help such energetically repressed wishes to a dream-fulfilment, the dreaming of which from psychical motives would have aroused the same anxiety feeling.

I have quoted these passages in the author's words because they are so crucial for his whole theory both in its psychological and in its pathological aspects. For my own part, and on the basis of my own experiences, I find it very difficult to agree entirely with this explanation. It may not be special pleading, but it seems very much like it. Why this persistent and almost impertinent faithfulness to one idea? Are not fears just as primitive as wishes and just as capable of repression without annihilation? May we not broaden the basis of our explanatory system? Freud has considered these and other possibilities, and on the basis of experience rejects them. But it is difficult to see how experience can force us to the wish-explanation when the huge class of anxiety dreams require such complications of the theory before they can be brought into line with the others.

In this connexion I might mention a striking experience of fear-repression with persistence in the unconscious that happened to me about a year ago. One day while out hunting I had two bad falls in rapid succession, but in the excitement of the chase felt none of the organic disturbances of fear, much to my own surprise. That night I dreamt of the entire hunt from start to finish, but with the intensest fear. My heart felt literally in my mouth the whole time. Even now the feeling sometimes recurs at night, although during the day I feel nothing of it and have not found it interfere with riding.

It is difficult to explain a dream of this kind in terms of wish-fulfilment, although the other part of the theory, the repression, is well illustrated by it. Freud's theory would fall much more completely into line with the views of modern psychology if in it he replaced "wish" by "emotional or instinctive tendencies." Examples of such emotional tendencies are fear, anger, self-assertion, self-abasement, and disgust, and systems of ideas tinged by these emotions may be on occasion driven from the main consciousness into the unconscious and reappear, under certain conditions, in dreams.

## II.

We have still to consider Freud's theory of dream-synthesis as distinguished from dream-analysis. Many different kinds of processes may be detected in the *Traumarbeit*, or dream work. In the first place there are those processes of disguise adopted by the latent content which I have in outline already described. Secondly, there are the means which the dream-thought employs to represent those thought-relations, or relations of predication, which the manifest content cannot directly express in their real form. Logical connexion in general in the latent content is represented by simultaneity in the manifest content. The relation of causality may be represented either by a mere succession of dream images or by an observable transformation of one into another. In the first case the succession is often between one dream and the next. Similarity is represented by unification, in the form either of identification or of a composite picture. These expressions of similarity often serve to represent a *desired* similarity. Relations are often represented in the manifest content in a reversed form; even in the succession representing causality the effect is frequently put before the cause. The explanation of this is, of course, the desire to evade the censor. Lack of clearness in the dream often represents actual uncertainty in the dream thought. One of Freud's patients at first refused to relate her dream to him "because it was so indefinite and confused." Finally, after some persuasion, she said "that there were several persons present in the dream, herself, her husband, and her father, and that she didn't seem to know whether her husband was her father, or who her father really was, or something of that sort." The explanation was that she was expecting a child, and that her friends had been bothering her to know "who exactly the father was." Evidently in such a case as this the lack of clearness is really a part of the dream-thought.

There are two general characteristics of dreams which deserve special mention. One is "*condensation*" (Verdichtung), where, through appropriate choice of material for the manifest content, the dream expresses the fulfilment of several wishes in one short dream experience. The manifest content chosen is as it were a nodal point or a number of nodal points from which important trains of association lead in different directions to eventually reach and sustain a number of wish-fulfilments. Each part of the manifest content is overdetermined, so that "*overdetermination*" (Ueberdeterminierung) is simply the other aspect of condensation. The second characteristic is that of "*displacement*" (Verschiebung), and has already been mentioned in another connexion. It consists in a shifting of emphasis or of psychical intensity from one part of the dream to another, "a transvaluation of all values" as Freud calls it, and produces a distortion of the dream which helps the repressed wish to evade the censor.

A tendency towards the rationalising of the manifest content along lines different from those of the hidden wish-fulfilment may often be detected in a dream, and may also continue to exert an influence on it after waking. This is what Freud has named "secondary elaboration," and is, of course, the work of the censor. The influence of the censor is also to be seen in the tendency to forget one's dreams, which may even extend to the interpretation of them. One may wake up from a dream during the night, interpret it, and fall to sleep again, and find the next morning that both dream and interpretation are forgotten. A fact like this is sufficient to refute Dr. Morton Prince's criticism that the forgetting of dreams is simply a special instance of the forgetting of dissociated states of consciousness. The forgetting is an active process of repression similar to the repression which first drove the wish into the unconscious.

All dreams, without exception, are egoistic. They are the fulfilment of wishes of an entirely selfish nature. In dreams where the dreamer himself does not seem to be present, it will be found that he is represented by some other personage. If several of these are present the ego is to be identified, thinks Freud, with the one who carries the "affect."

Professor Freud has worked out an elaborate psychological system to explain the phenomena of dreams and psychoneuroses, which I deal with more fully in a later section of this paper. Like many other psychologists, he regards the "psychical" as something very much wider than the "conscious." Of the latter he writes: "Consciousness appears to us to be a sort of sense-organ, which perceives a content given from elsewhere" (p. 105). This content, when not illuminated by consciousness, may yet persist as an unconscious psychical process. But Freud makes a new and important contribution to psychological theory in distinguishing between two kinds of unconscious ideas, to which he gives the names "*foreconscious*" and "*unconscious*" respectively. Describing the mind as a sensori-motor system made up of subsidiary systems or "instances" he writes:—

> The last of the systems at the motor end we call the *foreconscious*, in order to indicate that the excitation processes taking place within it can rise to consciousness without further hindrance, provided that certain conditions are fulfilled—e.g., the attainment of a certain intensity, a certain distribution of that function which is known as attention, and so forth. It is also the system which holds the key to voluntary movement. The system behind this we call the *unconscious*, because it has no access to consciousness *except through the foreconscious*, during which progress its excitation process necessarily undergoes alteration (p. 362).

Put quite briefly, the distinction would seem to be one between repressed and unrepressed memories. The "unconscious" contains those tendencies experienced, or at least existent, during our past life, especially during the early years of childhood, which have been energetically repressed, and the censor, which is the allegorical name for this repression, is therefore situated between the unconscious and the foreconscious. That is to say, the censor is itself unconscious (or foreconscious), although at the time when the repression of the infantile tendencies first took place it may have been conscious. Freud also inclines to the view that there is some evidence for the existence of a second censor between the foreconscious and the conscious.

Now it is the foreconscious which furnishes the material of the "manifest content" of our dreams, and in it may be found not only wishes, but fears, anxieties, hopes, and all the other conative tendencies displayed by the mind. On the other hand, the unconscious contains wishes, and wishes only. These date from early childhood and are always sexual in nature, since no other wishes would have met with the vigorous repression necessary to drive them into the unconscious. Freud brings forward some interesting arguments in favour of this theory of the fundamental nature of wishing in early life. Unfortunately space does not allow me to discuss them here as they deserve.

The wishes of the adult consciousness, even when repressed, are in Freud's view seldom intense enough to serve single-handed as the motive to the formation of any dream, and in most cases, if not in all, need the coöperation of unconscious infantile wishes. It is these latter which supply the requisite energy, although themselves remaining hidden until revealed by psycho-analysis. They transfer their psychical energy to corresponding elements in the foreconscious and so attain to a vicarious fulfilment. The only wish derived from the foreconscious which is a primary constituent of any dream is the wish to continue sleeping, and this wish is an essential part of every dream. It might perhaps be regarded as an infantile wish which has never been repressed and has never undergone modification in the course of mental development.

*(To be concluded.)*

## ANNUAL REPORT OF THE LONDON COUNTY COUNCIL FOR 1911.[1]

*(Concluded from p. 1047.)*

IN a leading article in THE LANCET of March 15th on the Vital Statistics of London we announced the intention of further considering Dr. W. H. Hamer's contribution to this report, only a partial notice of which was then possible.

### *Typhoid Fever.*

Among several matters of medical interest, Dr. Hamer's account of the behaviour of typhoid fever in London is particularly noteworthy. In the course of the last 20 years numerous explosive outbreaks of this disease have occurred in different parts of the metropolis, the cause of which was in most cases traced to infected food. In some instances suspicion seemed to attach to shell-fish, in others to ice-cream, to fried fish, or to watercress.

The present report strikingly illustrates the difficulty of discriminating between one and another suspected food-supply, and is therefore deserving of attentive study. It is reassuring to learn that efforts are now systematically made by local medical officers of health to trace the source of infection wherever typhoid fever attacks are reported. According to the local reports a large number of fever cases appear to have been imported, most of these giving a history of seaside or foreign infection. The difficulty of diagnosis is emphasised in some of the reports, and this difficulty is illustrated by the return of cases certified as typhoid fever and admitted to the hospitals of the Metropolitan Asylums Board. From a table it appears that during the last 10 years the proportion of these cases wrongly diagnosed as typhoid fever has varied annually from 18 to 38 per cent. In the course of the year 1911 nearly one-third of the cases admitted were eventually declared to have been erroneously certified.

[1] Previous notices of this report appeared in THE LANCET of March 15th, p. 764, and April 12th, p. 1045.

### *Investigation into Typhoid Fever Prevalence in London.*

About the middle of September a marked increase of typhoid fever was observed in different parts of London. In Finsbury alone 30 cases were reported in a single week, the number notified in the preceding five weeks having averaged less than 1 per week.

In the annual reports of the medical officer of health of Finsbury for 1910 and 1911 special reference is made to certain localised prevalences of typhoid fever and to possible sources of infection. For example, the suggestion is made that hawkers suffering from incipient typhoid fever while selling watercress or fruit may be a means of spreading infection. A further possibility suggested is the existence of undiscovered carriers of typhoid fever. In considering the exceptional prevalences referred to, question arose as to whether certain cases of typhoid fever occurring in other parts of London may have been due to the same causes as those operative in Finsbury. The matter was therefore referred by Sir Shirley Murphy, then his chief, to Dr. Hamer for special investigation, and his report (which is reprinted in the present volume) was presented to the County Council at the time.

At the outset careful examination was made of the usual media of typhoid infection. Milk, to which, of course, attention was directed, was readily exonerated. The possibility of contamination of water mains was next considered, but the distribution of attacks lent no support to such a hypothesis. The age-constitution of the sufferers in this outbreak was remarkable, children and young adults between the ages of 5 years and 25 being, with few exceptions, the victims. Moreover, the sufferers were exceptional socially. The exclusive selection for attack of persons at certain ages and of a particular social class practically negatived the probability that either water or milk was accountable for the outbreak. On the other hand, the rapidly growing conviction that either fried fish or ice-cream was at fault received further confirmation thereby. Among other articles of food, shell-fish and watercress came under scrutiny, but very few of the sufferers had consumed either of these articles of food; moreover, the mussel season had at that time barely commenced.

In submitting to the Council the results of Dr. Hamer's investigation, Sir Shirley Murphy remarked that "*primâ facie* there were some grounds for suspecting that the outbreak might possibly have been due to ice-cream; but an analysis of all the evidence failed to show any other explanation than the consumption of fried fish as the cause of the prevalence." The ground on which ice-cream was at first suspected as a possible source of mischief was the fact that about one-third of the sufferers had purchased ice-cream from one particular vendor. But it was subsequently proved that 35 of the 56 sufferers had not partaken of ice-cream at all. On the other hand, no fewer than 52 of the 56 infected persons had consumed the suspected fish. Moreover, careful study of the age-incidence and topographical distribution of the sufferers, and of the purchasers of fried fish at the particular shop, yielded strong evidence in support of the fish infection theory; and this evidence was further strengthened by the fact that there were numerous instances among families where a single person bought suspected fish and was alone attacked, whilst among families sharing fish in common multiple attacks supervened. It may here be affirmed that the presumption that the whole fish-supply at this period fell under suspicion has never been made in the course of this investigation. Dr. Hamer's report dealt fully with the question of the particular consignment of fish probably at fault, and made it clear that it was only the cheaper portions of fried fish sold to the early evening customers on a particular date in August that could properly be suspected. It is probable that the infected fish was distributed, not in Finsbury alone, but in two other boroughs also. The records of onset of illness pointed to August 17th or 18th as the date of delivery in London of the infected consignments of fish. It is important to note that some of the fish deliveries referred to were from unusual sources, owing to dislocation of traffic caused by a strike. It was stated at the time that on this account trawler owners on the coast found it impossible to dispose of the boat catches at the end of the preceding week. Dr. Hamer draws attention to the important fact, established by the inquiries and reports of officers of the Board of Trade, that much of the small plaice sold at Billingsgate comes from certain "nursery ponds" not far

from the mouth of the Elbe. It is possible that "estuary fish" may be in question in the present case.

*Previous Outbreaks of Typhoid Fever.*

The County Council reports of past years contain evidence of several previous outbreaks of typhoid fever in London apparently caused by fried fish, and the recent occurrence at Finsbury adds another to the list. In his annual report for 1910 Sir Shirley Murphy epitomised the facts respecting these outbreaks. It is there stated that as far back as the year 1900 three localised prevalences of typhoid fever occurred in Southwark, in one of which 120 persons were attacked. Dr. Hamer obtained evidence implying that the Southwark prevalence was due to infected fish, and, further, that two other prevalences (in Lambeth and Kensal Town) were probably due to a similar cause. In 1903 the same origin was assigned for certain prevalences of typhoid fever in Holborn and in Southwark, and in 1906 there was some evidence pointing in the same direction. In 1908 fish again fell under suspicion in Bethnal Green and in Shoreditch. In 1910 Bethnal Green was yet again visited, this time more severely. In this case examination showed that every one of the 49 sufferers from typhoid fever obtained fried fish from one or other of three specified shops, two of which derived their fish-supply from a common source. Almost simultaneously with this latter outbreak 33 local prevalences of typhoid fever occurred in various parts of London and in Tottenham and Edmonton. After exclusion of the ordinary sources of mischief it was found in all these instances that the sufferers had partaken of fish (frequently fried), and that these were usually small plaice, known among fish vendors as "late steamer fish." Very great are the chances against such a combination of circumstances as the foregoing being the result of mere coincidence.

*Tuberculosis in London.*

The campaign against tuberculosis continues to be carried on systematically in the metropolis, and as a result the loss of life from this eminently preventable disease still continues to decrease. Compulsory notification of pulmonary tuberculosis is now in full operation throughout the county. Under a general order of Nov. 15th, 1911, the Local Government Board issued a further series of regulations respecting this subject. These regulations complete the system of notification inaugurated in 1908, and medical practitioners are now required to notify to the sanitary authority every case of pulmonary tuberculosis occurring in the course of their public or private practice.

Referring to the issue during the year of the Final Report of the Royal Commission on Tuberculosis, and especially to the declaration of the Commissioners that more ample powers than they now possess are needed by the County Council for the exclusion of tuberculous milk from London, the report proceeds to show that in the interval between the inauguration of the Council's General Powers Act in 1907 and the end of 1911 between 7000 and 8000 samples of cows' milk have been examined, the result being that 10·8 per cent. of those samples were found tuberculous. The milk came from 28 different counties, not all of them near London. Since the Act came into force the Council's veterinary inspector has visited 1622 farms and inspected 44,307 milch cows, of which 1·3 per cent. were found to be affected with tuberculosis of the udder. It is satisfactory to learn that the owners concerned have undertaken to discontinue the sale for human consumption of the milk of the animals thus affected. All the animals in London cowsheds are examined by a veterinary surgeon about six times yearly under the provisions of the Act of 1904, by which the Council is authorised to seize and slaughter any cow suspected to be suffering from tuberculosis of the udder. During the year under notice 18 animals were seized and slaughtered under the Act, and compensation was made to the owners, post-mortem examination having shown in each case that the udder of the animal was tuberculous.

*Cerebro-spinal Fever.*

Under the Public Health (London) Act, 1891, the Council made an order extending for a further period of 12 months from March, 1911, the notification of cerebro-spinal fever (epidemic cerebro-spinal meningitis) occurring within the county. Arrangements have been perfected whereby the County Council receives from medical practitioners particulars of all cases coming under observation. This information is promptly communicated to the several medical officers of health, who thus receive warning of cases occurring in other districts; and facilities are afforded for observation in event of the disease showing a tendency to spread. During the year under notice 101 cases of this disease were reported, bringing up the total since 1907, when notification first became compulsory, to 642 cases. The notification of this disease, as well as of acute poliomyelitis, is now permanent.

*Housing of the Working Classes.*

A history of the housing question in London up to the year 1900 has already been published[2] by the Council, and an account of the Council's housing work since that date is now in course of preparation.

In the present report particulars are given of the powers of the Council for the housing of the working classes. Part I. of the Act of 1890 imposes on the County Council the duty of demolishing and reconstructing unhealthy areas that are large enough to be important to the whole county. It also imposes on them the necessity of providing for the re-housing of persons of the working class displaced by such demolition. Part II. empowers the borough councils (and in their default the County Council) to deal with individual obstructive houses, or with smaller insanitary areas of merely local importance. Under Parts I. and II. the County Council has already completed 13 schemes involving the displacement of more than 16,000 working-class persons, and the re-housing of 15,000 of the persons displaced. Under the Housing and Town Planning Act, 1909, facilities are given for dealing, by way of demolition, with such dwelling houses as are so dangerous or injurious to health as to be unfit for human habitation; the power to make the necessary orders for this purpose being entrusted by that Act to the local authorities, instead of to the courts of summary jurisdiction as formerly. The expenditure by the County Council up to March, 1912, in respect of the clearance of insanitary property amounts in the aggregate to nearly £3,500,000. In carrying out public improvements, other than schemes under the Housing Acts, the Council has displaced more than 12,000 persons, and has provided suitable accommodation for nearly 13,000, in lieu of the properties demolished. The Council has already erected three model lodging-houses for men, containing 1856 cubicles; but, on account of the still persisting deficiency of such accommodation, it has recently provided, in various parts of London, a number of tenements capable of accommodating 4068 persons. In addition, it has acquired four suburban estates—at Tottenham, Tooting, Norbury, and Hammersmith—comprising 340 acres. Up to the end of the year under notice, 2405 cottages, accommodating 17,831 persons, had been completed on these estates, making a total accommodation for nearly 22,000 persons provided under Part III. of the Act.

## ROYAL MEDICAL BENEVOLENT FUND.

As previously announced, the King was graciously pleased last year to confer on the Fund the title of "Royal." To celebrate this event it has been arranged to hold a dinner of those interested in the Fund and its Guild—ladies and gentlemen. H.R.H. Prince Arthur of Connaught will preside over the dinner, which will take place on Wednesday, April 30th, at the Hotel Cecil. The following is the second list of stewards:—

Acland, Dr. T. Dyke.
Alexander, Dr. F. W.
Baker, Dr. J. C.
Brownfield, Mr. H. M.
Chapman, Dr. C. W.
Cock, Mr. F. W.
Cook, Mr. H.
Clayton-Greene, Mr. W. H.
Edge, Dr. A.
Finlay, Prof. D.
Flower, Mr. G. W.
Freyer, Mr. P. J.
Gardner, Dr. H. W.
Godlee, Lady.
Godson, Dr. Clement.
Green, Dr. W. G.
Griffith, Mr. J.
Gubbins, Surg.-Gen. Sir W.
Hay, Dr. K. R.
Hewitt, Sir Frederic and Lady.
Hovell, Hon. Mrs. Mark.
Howarth, Mr. G.
Lawford, Mr. J. B.
Lett, Mr. Hugh.
Lowe, Mrs.
Luce, Dr. R. H.
Macnaughton-Jones, Dr. H.
Mann, Dr. A.
Porter, Surg.-Gen. Sir James.
Renton, Dr. Crawford.
Sharkey, Dr. S. J.
Stevens, Dr. T. G.
Thompson, Dr. Theodore.
Treves, Sir Frederick.
Turney, Dr. H. J.
Walford, Dr. and Mrs. R. M. H.
White, Dr. Mower.
Whitfield, Dr. A.
Woodhead, Prof. Sims.
Wright, Mr. G. A.

Communications relating to the dinner may be addressed to Mr. G. Bethell, 11, Chandos-street, Cavendish-square, W., and subscriptions sent to the treasurer, Dr. Samuel West, 15, Wimpole-street, W.

[2] The Housing Problem in London, 1855–90 (No. 503).

# VITAL STATISTICS.

## HEALTH OF ENGLISH TOWNS.

In the 96 English and Welsh towns with populations exceeding 50,000 persons at the last Census, and whose aggregate population at the middle of this year is estimated at 17,852,766 persons, 8293 births and 5195 deaths were registered during the week ended Saturday, April 12th. The annual rate of mortality in these towns, which had been 16·5, 16·9, and 15·6 per 1000 in the three preceding weeks, further declined to 15·2 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these towns averaged 16·9 per 1000, against a corresponding rate of 17·5 in London. The death-rates last week in the several towns ranged from 7·5 in Tottenham and in Edmonton, 7·7 in Coventry, 7·9 in Carlisle, 8·2 in Croydon, and 8·3 in Willesden and in Hornsey, to 22·7 in Gloucester and in Stoke-on-Trent, 24·3 in Halifax, 26·7 in St. Helens, and 27·9 in Stockton-on-Tees.

The 5195 deaths from all causes in the 96 towns were 142 fewer than the number in the previous week, and included 394 which were referred to the principal epidemic diseases, against numbers declining from 464 to 402 in the four preceding weeks. Of these 394 deaths, 213 resulted from measles, 63 from infantile diarrhœal diseases, 50 from whooping-cough, 36 from diphtheria, 19 from scarlet fever, and 13 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2 per 1000, and coincided with the rate in each of the two preceding weeks. The deaths attributed to measles, which had been 220, 208, and 215 in the three preceding weeks, were 213 last week, and caused the highest annual death-rates of 2·0 in Bolton and in Stockton-on-Tees, 2·1 in Smethwick, 2·2 in Wolverhampton, 2·3 in West Bromwich and in Wigan, 2·4 in Newport (Mon.), 3·1 in St. Helens, and 5·2 in Gloucester. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 67, 71, and 53 in the three preceding weeks, rose to 63 last week, and included 16 in London, 7 in Liverpool, 4 in Stoke-on-Trent, 4 in Walsall, 3 in Birmingham, and 3 in Nottingham. The fatal cases of whooping cough, which had declined from 83 to 60 in the four preceding weeks, further fell to 50 last week; 15 deaths were registered in London, 5 in Liverpool, 3 in Stoke-on-Trent, and 2 each in Birmingham, in Oldham, in Leeds, and in Aberdare. The deaths attributed to diphtheria, which had declined from 54 to 35 in the five preceding weeks, were 36 last week, and included 11 in London, 4 in Stoke-on-Trent, 4 in Manchester, 3 in Leeds, 2 in Cambridge, and 2 in Leicester. The deaths referred to scarlet fever, which had been 28, 19, and 23 in the three preceding weeks, were 19 last week, of which number 4 were recorded in London, 3 in Birmingham, and 2 in West Ham. The fatal cases of enteric fever, which had been 13, 8, and 16 in the three preceding weeks, slightly fell to 13 last week, and included 3 in Manchester and 2 in Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had steadily declined from 2112 to 1410 in the 15 preceding weeks, had further fallen to 1357 on Saturday last; 148 new cases were admitted during the week, against 156, 168, and 167 in the three preceding weeks. These hospitals also contained on Saturday last 872 cases of diphtheria, 811 of measles, 264 of whooping-cough, and 38 of enteric fever, but not one of small-pox. The 1287 deaths from all causes in London were 129 fewer than the number in the preceding week, and were equal to an annual death-rate of 14·9 per 1000. The deaths referred to diseases of the respiratory system, which had steadily declined from 453 to 346 in the six preceding weeks, further fell to 285 last week, but were 59 above the number recorded in the corresponding week of last year. The deaths attributed to influenza numbered 45, against 65, 47, and 45 in the three preceding weeks.

Of the 5195 deaths from all causes in the 96 towns, 177 resulted from different forms of violence, and 384 were the subject of coroners' inquests. The causes of 42, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Leeds, Bristol, West Ham, Portsmouth, Salford, Cardiff, Bolton, and in 59 other smaller towns. Of the 42 uncertified causes of death, 4 were registered in Birmingham, 3 in Stoke-on-Trent, 3 in Liverpool, 3 in Gateshead, 2 in Gloucester, 2 in Bury, and 2 in Newcastle-on-Tyne.

## HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,259,600 persons at the middle of this year, 1196 births and 746 deaths were registered during the week ended Saturday, April 12th. The annual rate of mortality in these towns, which had steadily declined from 20·7 to 17·2 per 1000 in the six preceding weeks, was again 17·2 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these Scotch towns averaged 19·1, against a corresponding rate of 16·9 per 1000 in the 96 large English towns. Among the several towns the death-rates last week ranged from 10·7 in Ayr, 11·9 in Perth, and 12·0 in Kilmarnock, to 20·8 in Greenock, 21·6 in Coatbridge, and 22·0 in Dundee.

The 746 deaths from all causes were 2 in excess of the number in the previous week, and included 83 which were referred to the principal epidemic diseases, against numbers declining from 88 to 75 in the three preceding weeks. Of these 83 deaths, 44 resulted from whooping-cough, 13 from measles, 11 from infantile diarrhœal diseases, 9 from diphtheria, 3 from enteric fever, and 3 from scarlet fever, but not one from small-pox. These 83 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·9, against 1·2 per 1000 in the 96 large English towns. The deaths attributed to whooping-cough, which had been 55, 44, and 43 in the three preceding weeks, were 44 last week, and included 25 in Glasgow, 8 in Edinburgh, 4 in Greenock, and 2 each in Leith, in Motherwell, and in Hamilton. The deaths referred to measles, which had been 5, 9, and 8 in the three preceding weeks, rose to 13 last week of which number 5 occurred in Glasgow and 4 in Aberdeen. The fatal cases of diarrhœa and enteritis (among infants under 2 years of age), which had been 18, 17, and 13 in the three preceding weeks, further declined to 11 last week, and included 5 in Glasgow and 2 in Dundee. The deaths attributed to diphtheria, which had been 3, 7, and 6 in the three preceding weeks, rose to 9 last week and comprised 5 in Glasgow, 3 in Aberdeen, and 1 in Greenock. The 3 deaths referred to enteric fever were equal to the number registered in each of the two preceding weeks, and were recorded in Aberdeen, Paisley, and Coatbridge respectively; the 3 fatal cases of scarlet fever, which coincided with the average in the three preceding weeks, were registered in Glasgow, Aberdeen, and Leith respectively.

The deaths referred to diseases of the respiratory system, which had been 166, 154, and 127 in the three preceding weeks, further declined to 117 last week; 31 deaths were attributed to different forms of violence, against 17 and 27 in the two preceding weeks.

## HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland, with an aggregate population estimated at 1,199,180 persons at the middle of this year, 716 births and 517 deaths were registered during the week ended Saturday, April 12th. The annual rate of mortality in these towns, which had been 21·7, 23·8, and 23·3 per 1000 in the three preceding weeks, further declined to 22·5 per 1000 in the week under notice. During the 13 weeks of the quarter just ended the mean annual death-rate in these towns averaged 22·2 per 1000; in the 96 large English towns the corresponding death-rate did not exceed 16·9, while in the 16 Scotch towns it was equal to 19·1 per 1000. The annual death-rate last week was equal to 27·2 in Dublin (against 14·9 in London and 18·0 in Glasgow), 19·6 in Belfast, 24·5 in Cork, 14·0 in Londonderry, 19·0 in Limerick, and 20·9 in Waterford, while in the remaining 21 smaller towns the mean death-rate did not exceed 20·7 per 1000.

The 517 deaths from all causes in the 27 Irish towns were 18 fewer than the number in the previous week, and included 37 which were referred to the principal epidemic diseases, against 46 and 39 in the two preceding weeks. Of these 37 deaths, 14 resulted from measles, 10 from infantile diarrhœal diseases, 5 from scarlet fever, 5 from diphtheria, and 3 from whooping-cough, but not one from small-pox

## ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING THE YEAR 1912.

*(Specially compiled for* THE LANCET.)

| CITIES AND BOROUGHS. | Estimated population in the middle of 1912. | NOTIFIED CASES OF INFECTIOUS DISEASE. | | | | | | | | | | | | DEATHS FROM PRINCIPAL INFECTIOUS DISEASES. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Small-pox. | Scarlet fever. | Diphtheria.* | Typhus fever. | Enteric fever. | Other continued fevers. | Puerperal fever. | Erysipelas. | Cerebro-spinal meningitis. | Poliomyelitis. | Total. | Annual rate per 1000 persons living. | Small-pox. | Measles. | Scarlet fever. | Diphtheria.* | Whooping-cough. | Enteric fever. | Diarrhœa and enteritis (under 2 years). | Total. | Annual rate per 1000 persons living. | Deaths from all causes. | Death-rate per 1000 living.† |
| **LONDON** | **4,519,754** | **4** | **11,312** | **7101** | **3** | **704** | **7** | **380** | **4098** | **105** | **132** | **23,846** | **5·3** | **1** | **1799** | **159** | **452** | **970** | **117** | **1371** | **4869** | **1·1** | **61,101** | **14·3** |
| *West Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Paddington | 142,362 | — | 269 | 254 | — | 15 | — | 11 | 117 | 7 | 6 | 679 | 4·8 | — | 31 | 3 | 6 | 20 | 1 | 43 | 104 | 0·7 | 1751 | 13·1 |
| Kensington | 171,746 | — | 304 | 180 | — | 15 | 2 | 8 | 116 | — | 1 | 626 | 3·7 | — | 27 | 5 | 6 | 24 | 4 | 37 | 103 | 0·6 | 2226 | 14·0 |
| Hammersmith | 122,750 | — | 333 | 176 | — | 11 | — | 7 | 102 | 2 | 2 | 633 | 5·2 | — | 29 | 4 | 13 | 17 | 4 | 29 | 96 | 0·8 | 1605 | 13·6 |
| Fulham | 155,402 | — | 485 | 233 | — | 26 | — | 30 | 115 | 2 | 5 | 896 | 5·8 | — | 65 | 6 | 15 | 45 | 8 | 33 | 172 | 1·1 | 1985 | 13·4 |
| Chelsea | 65,397 | — | 126 | 89 | — | 10 | — | 7 | 30 | — | 1 | 263 | 4·0 | — | 22 | 2 | 5 | 14 | 1 | 8 | 52 | 0·8 | 949 | 15·1 |
| City of Westminster | 157,248 | — | 238 | 160 | — | 17 | — | 19 | 92 | 3 | 6 | 535 | 3·4 | — | 37 | 4 | 11 | 16 | 4 | 38 | 110 | 0·7 | 1942 | 13·9 |
| *North Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Marylebone | 116,155 | — | 269 | 149 | — | 11 | — | 5 | 89 | 1 | 3 | 517 | 4·5 | — | 40 | 11 | 8 | 19 | 5 | 26 | 109 | 0·9 | 1601 | 14·7 |
| Hampstead | 85,966 | — | 107 | 161 | — | 10 | — | 3 | 44 | 1 | 2 | 328 | 3·8 | — | 11 | 1 | 17 | 4 | 1 | 1 | 35 | 0·4 | 842 | 11·1 |
| St. Pancras | 216,145 | — | 597 | 550 | — | 29 | — | 20 | 189 | 3 | 3 | 1391 | 6·5 | — | 95 | 5 | 25 | 44 | 3 | 37 | 209 | 1·0 | 3148 | 15·3 |
| Islington | 326,398 | — | 811 | 517 | — | 49 | — | 16 | 186 | 13 | 11 | 1603 | 4·9 | — | 151 | 9 | 39 | 57 | 8 | 90 | 354 | 1·1 | 4663 | 14·9 |
| Stoke Newington | 50,581 | — | 90 | 55 | — | 3 | — | 3 | 33 | 1 | 5 | 190 | 3·8 | — | 5 | — | — | 3 | — | 3 | 11 | 0·2 | 610 | 12·6 |
| Hackney | 222,986 | — | 515 | 252 | — | 27 | — | 27 | 210 | 7 | 8 | 1046 | 4·7 | — | 19 | 8 | 12 | 33 | 3 | 60 | 135 | 0·6 | 2691 | 12·6 |
| *Central Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Holborn | 48,026 | — | 114 | 89 | — | 12 | — | — | 47 | 1 | — | 263 | 5·5 | — | 25 | — | 7 | 7 | 1 | 8 | 48 | 1·0 | 736 | 16·6 |
| Finsbury | 86,130 | — | 157 | 144 | 1 | 8 | — | 12 | 144 | 1 | 3 | 470 | 5·5 | — | 129 | 5 | 13 | 29 | 1 | 44 | 221 | 2·6 | 1611 | 19·4 |
| City of London | 18,696 | — | 33 | 17 | — | 2 | — | — | 14 | 1 | 1 | 68 | 3·6 | — | 2 | — | 1 | 1 | — | 4 | 8 | 0·4 | 251 | 14·8 |
| *East Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Shoreditch | 110,430 | — | 153 | 139 | 1 | 14 | — | 8 | 148 | 5 | — | 468 | 4·3 | — | 116 | 5 | 19 | 47 | 4 | 94 | 285 | 2·6 | 1997 | 19·0 |
| Bethnal Green | 127,985 | — | 283 | 220 | — | 30 | — | 16 | 192 | 6 | 7 | 754 | 5·9 | — | 91 | 2 | 12 | 32 | 3 | 48 | 188 | 1·5 | 1954 | 15·5 |
| Stepney | 277,315 | — | 929 | 363 | — | 56 | 1 | 31 | 342 | 11 | 12 | 1745 | 6·3 | — | 170 | 13 | 26 | 96 | 9 | 153 | 467 | 1·7 | 4211 | 15·9 |
| Poplar | 161,597 | 1 | 314 | 253 | — | 36 | — | 20 | 198 | 6 | 5 | 833 | 5·2 | — | 112 | 3 | 17 | 64 | 7 | 68 | 271 | 1·7 | 2635 | 16·9 |
| *South Districts.* | | | | | | | | | | | | | | | | | | | | | | | | |
| Southwark | 190,017 | — | 500 | 283 | — | 39 | — | 18 | 265 | 8 | 6 | 1119 | 5·9 | — | 139 | 6 | 27 | 49 | 4 | 104 | 329 | 1·7 | 3163 | 17·5 |
| Bermondsey | 125,260 | — | 418 | 218 | 1 | 37 | — | 19 | 164 | 4 | 7 | 868 | 6·9 | — | 102 | 8 | 16 | 36 | 5 | 67 | 234 | 1·9 | 2097 | 17·2 |
| Lambeth | 297,560 | — | 596 | 336 | — | 61 | — | 24 | 223 | 7 | 9 | 1256 | 4·2 | — | 97 | 9 | 29 | 55 | 13 | 98 | 301 | 1·0 | 3951 | 13·7 |
| Battersea | 167,589 | — | 462 | 232 | — | 21 | — | 7 | 133 | 2 | 2 | 859 | 5·1 | — | 55 | 6 | 15 | 40 | 2 | 50 | 168 | 1·0 | 2044 | 13·1 |
| Wandsworth | 321,881 | — | 812 | 428 | — | 69 | 2 | 29 | 207 | 3 | 5 | 1556 | 4·8 | — | 50 | 11 | 19 | 61 | 8 | 73 | 222 | 0·7 | 3264 | 10·8 |
| Camberwell | 261,591 | — | 634 | 318 | — | 29 | 1 | 17 | 216 | 5 | 11 | 1231 | 4·7 | — | 81 | 8 | 21 | 51 | 6 | 65 | 232 | 0·9 | 3363 | 13·4 |
| Deptford | 109,377 | — | 404 | 169 | — | 9 | 1 | 8 | 191 | 4 | 4 | 790 | 7·2 | — | 28 | 6 | 11 | 25 | 2 | 29 | 101 | 0·9 | 1432 | 13·8 |
| Greenwich | 95,994 | — | 439 | 254 | — | 11 | — | 5 | 98 | — | 2 | 809 | 8·5 | — | 28 | 9 | 15 | 30 | 2 | 25 | 109 | 1·1 | 1254 | 13·4 |
| Lewisham | 165,249 | — | 457 | 436 | — | 26 | — | 7 | 103 | 1 | 2 | 1032 | 6·3 | — | 11 | 6 | 27 | 24 | 6 | 26 | 100 | 0·6 | 1714 | 10·8 |
| Woolwich | 121,932 | 3 | 472 | 424 | — | 20 | — | 3 | 90 | — | 3 | 1015 | 8·4 | 1 | 31 | 4 | 20 | 27 | 2 | 10 | 95 | 0·8 | 1411 | 12·4 |
| Port of London | — | — | 1 | 2 | — | 1 | — | — | — | — | — | 4 | — | — | — | — | — | — | — | — | — | — | — | — |

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

or from enteric fever. These 37 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·7 per 1000; the death-rate from these diseases last week did not exceed 1·2 in the 96 large English towns, while in the 16 Scotch towns it rose to 1·9 per 1000. The deaths attributed to measles, which had been 14, 17, and 14 in the three preceding weeks, were again 14 last week, and comprised 8 in Wexford, 3 in Newry, 2 in Belfast, and 1 in Cork. The deaths of infants (under 2 years of age) referred to diarrhœa and enteritis, which had been 7, 8, and 11 in the three preceding weeks, were 10 last week, and included 5 in Dublin and 3 in Belfast. The 5 fatal cases of scarlet fever, of which 3 occurred in Dublin and 2 in Belfast, were 3 above the average in the three preceding weeks. The 5 deaths attributed to diphtheria were equal to the average in the three preceding weeks, and comprised 4 in Dublin and 1 in Belfast. The 3 deaths referred to whooping-cough were registered in Dublin.

The deaths in the 27 Irish towns referred to diseases of the respiratory system, which had been 138, 122, and 142 in the three preceding weeks, declined to 109 in the week under notice. Of the 517 deaths from all causes, 158, or 31 per cent., occurred in public institutions, and 10 resulted from different forms of violence. The causes of 17, or 3·3 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 96 large English towns the proportion of uncertified causes of death last week did not exceed 0·8 per cent.

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### VITAL STATISTICS OF LONDON DURING 1912.

IN the accompanying table statistics of sickness and mortality in the City of London and in each of the metropolitan boroughs are summarised for the year 1912. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the ten diseases specified in the table was equal to a rate of 5·3 per 1000 of the population estimated at 4,519,754 persons in the middle of the year; in the three preceding years the rates had been 6·6, 4·5, and 5·4 per 1000 respectively. Among the various boroughs the rates last year ranged from 3·4 in the City of Westminster, 3·6 in the City of London, 3·7 in Kensington, and 3·8 in Hampstead and in Stoke Newington, to 6·5 in St. Pancras, 6·9 in Bermondsey, 7·2 in Deptford, 8·4 in Woolwich, and 8·5 in Greenwich. The cases of small-pox notified during the year numbered 4, against 21, 7, and 63 in the three preceding years; of these 4 cases, 3 belonged to Woolwich and 1 to Poplar. The prevalence of scarlet fever showed a slight increase, 11,312 cases being notified in 1912, against 10,489 in 1911. Among the several metropolitan boroughs the greatest proportional prevalence of this disease was recorded in Fulham, Stepney, Bermondsey, Deptford, Greenwich, and Woolwich. The number of scarlet fever patients admitted into the Metropolitan Asylums Hospitals was 10,488 last year, against 16,183, 9889, and 9631 in the three preceding years; 2088 cases remained under treatment at the end of the year, against 2329, 1574, and 1878 at the end of the three preceding years. Diphtheria was somewhat less prevalent last year, 7101 cases being notified, against 7389 in the preceding year; this disease was proportionally most prevalent in Hampstead, St. Pancras, Holborn, Greenwich, Lewisham, and Woolwich. There were 6184 diphtheria patients admitted into the Metropolitan Asylums Hospitals last year, against 5799, 4882, and 6336 in the three preceding years; 959 patients remained under treatment at the end of the year, against 904, 827, and 1294 at the end of the three preceding years. The prevalence of enteric fever showed a marked decrease last year; 704 cases were notified, against 1284 and 1025 in the two preceding years. Among the several boroughs this disease was proportionally most prevalent in Holborn, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, Lambeth, and Wandsworth. The number of enteric fever patients admitted into the Metropolitan Asylums Hospitals was 381, against 539, 745, and 552 in the three preceding years; 37 cases remained under treatment at the end of the year; 62, 88, and 76 at the end of the three preceding years. The greatest proportional prevalence of erysipelas occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 380 cases of puerperal fever notified during the year included 31 in Stepney, 30 in Fulham, 29 in Wandsworth, 27 in Hackney, 24 in Lambeth, and 20 in St. Pancras and in Poplar. Of the 105 cases of cerebro-spinal meningitis, 13 belonged to Islington, 11 to Stepney, 8 to Southwark, and 7 each to Paddington, Hackney, and Lambeth; and of the 132 cases notified as poliomyelitis 12 belonged to Stepney, 11 to Islington, 11 to Camberwell, 9 to Lambeth, and 8 to Hackney.

The mortality figures in the table relate to the deaths of persons actually belonging to the several boroughs and are obtained by distributing the deaths in institutions among the boroughs in which the deceased persons had previously resided; the death-rates from all causes are further corrected for variations in the sex and age constitution of the populations. During last year the deaths of 61,101 persons belonging to London were registered, equal to a death-rate of 14·3 per 1000, the rates in the three preceding years being 14·6, 13·3, and 15·8 per 1000. Among the several boroughs the lowest death-rates last year were 10·8 in Wandsworth and in Lewisham, 11·1 in Hampstead, 12·4 in Woolwich, and 12·6 in Stoke Newington and in Hackney; the highest rates were 16·9 in Poplar, 17·2 in Bermondsey, 17·5 in Southwark, 19·0 in Shoreditch, and 19·4 in Finsbury. The 61,101 deaths from all causes included 4869, which were referred to the principal infectious diseases; of these, 1 resulted from small-pox, 1799 from measles, 159 from scarlet fever, 452 from diphtheria, 970 from whooping-cough, 117 from enteric fever, and 1371 from diarrhœa and enteritis among children under 2 years of age. The death-rates from these diseases in the aggregate ranged from 0·2 in Stoke Newington, 0·4 in Hampstead, and 0·6 in Kensington, in Hackney, and in Lewisham, to 1·5 in Bethnal Green, 1·7 in Stepney, in Poplar, and in Southwark, and 2·6 in Finsbury and in Shoreditch. The death from small-pox belonged to Woolwich. The 1799 fatal cases of measles were 223 below the corrected average number for the five preceding years; the greatest proportional mortality from this disease occurred in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. The 159 deaths from scarlet fever were 229 fewer than the corrected average number; this disease was proportionally most fatal in St. Marylebone, Finsbury, Bermondsey, Deptford, and Greenwich. The 452 fatal cases of diphtheria were 187 below the corrected average number; the highest death-rates from this disease were recorded in Hampstead, Holborn, Finsbury, Shoreditch, Greenwich, Lewisham, and Woolwich. The 970 deaths from whooping-cough were 318 less than the corrected average number; this disease was proportionally most fatal in Fulham, Finsbury, Shoreditch, Stepney, Poplar, Bermondsey, and Greenwich. The 117 fatal cases of enteric fewer showed a decline of 63 from the corrected average number; the greatest proportional mortality from this disease was recorded in Fulham, St. Marylebone, Shoreditch, Poplar, Bermondsey, Lambeth, and Lewisham. Diarrhœa and enteritis among children under two years of age were proportionally most fatal in Finsbury, Shoreditch, Stepney, Southwark, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last year from the principal infectious diseases, excluding diarrhœa, was 22 per cent. below the average.

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## THE SERVICES.

### ROYAL NAVY MEDICAL SERVICE.

THE undermentioned Acting Surgeons have been confirmed in the rank of Surgeon in His Majesty's Fleet:—Albert Edward Malone, Hamlet Mark Whelan, Robert Francis Preston Cory, Henry St. Clair Colson, George Albert Finegan, John Timothy Donal Sullivan Higgins, Jackson Graham Boal, Frederick St. Barbe Wickham, and Sidney Punch (dated Oct. 4th, 1912).

The following appointments have been notified:—Surgeons-General: A. J. J. Johnston to the *Pembroke*, additional, for Chatham Hospital, and to the Chatham Hospital; and A. W. May to the *President*, additional, for service at the Admiralty Medical Department.

### ROYAL ARMY MEDICAL CORPS.

Frederick Edward Bissell, late Captain, Royal Army Medical Corps Special Reserve, to be Captain (dated April 16th, 1913).

Surgeon-General H. G. Hathaway has taken up duty as Deputy Director of Medical Services to the Eighth (Lucknow) Division of the Southern Army.

Colonel R. J. Geddes, D.S.O., has been placed under orders to return home from India on appointment as Assistant Director of Medical Services.

Lieutenant-Colonel E. Eckersley has been selected for appointment to command the Military Hospital at Delhi. Lieutenant-Colonel C. W. R. Healey has been granted eight months' leave of absence home from India. Lieutenant-Colonel J. Thomson has been appointed for duty at Queen Alexandra's Military Hospital. Lieutenant-Colonel D. M. O'Callaghan has been appointed to hold charge of the Military Hospital at Hilsea.

Major W. L. Bennett has arrived home for duty from Bermuda. Major E. A. Bourke, on arrival home from Capetown, has been appointed to the Western Command. Major A. C. Adderley has been transferred from the Military Hospital at Harrismith to Wynberg. Major G. J. Stoney Archer has joined for duty at the Military Hospital, Cosham. Major B. R. Dennis has been appointed to the London District. Major A. R. O'Flaherty has taken up duty at the Military Hospital, Ambala Cantonment. Major W. S. Crosthwait has arrived in India for a tour of service. Major E. McDonnell has been appointed for duty to the Eastern Command. Major S. G. Butler has been appointed to the Military Hospital at the Curragh. The following Majors have been notified that they will be required for service abroad during the coming trooping season: E. E. Powell, G. W. Tate, C. B. Lawson, H. W. H. O'Reilly, E. H. Condon, B. W. Longhurst, K. B. Barnett, W. Tabbits, and W. S. Harrison.

Captain G. F. Rudkin has arrived home on six months' leave of absence from India. Captain C. McQueen has been appointed to the Aldershot Command. Captain A. L. Otway has been appointed Specialist Sanitary Officer at Portsmouth. Captain P. Farrant has embarked for a tour of service in the Sierra Leone Protectorate. Captain N. Dunbar Walker has taken up duty at the Military Hospital, Quetta Cantonment. Captain W. D. C. Kelly has embarked for South Africa. Captain A. E. B. Wood has been transferred from the Military Hospital at Hong-Kong to Tientsin. Captain D. G. Carmichael has taken up duty at Glencorse. Captain G. E. Cathcart has embarked for a tour of foreign service. Captain A. S. Littlejohns has been appointed to the Irish Command. Captain R. D. O'Connor has been transferred from the Military Hospital at Lahore to Multan Cantonment. Captain A. E. Irvine has been appointed to the Belfast District. Captain C. M. Ingoldby has been transferred from the Military Hospital at Cork to Kilkenny for duty. Captain D. P. Johnstone has taken up duty at the Military Hospital, Jhansi. Captain N. E. Dunkerton has been appointed to the Aldershot Command. Captain F. McCammon has been appointed for duty in the Dublin District. Captain R. C. Priest has been transferred from the Military Hospital at Lebong to Allahabad Cantonment for duty. Captain C. H. Turner has joined at Dublin. Captain J. W. L. Scott has been appointed to the Royal Victoria Hospital at Netley. Captain L. Cotterill has been placed under orders for service abroad. Captain C. G. Sherlock has been transferred from Bakloh Cantonment to the Military Hospital at Lahore for duty. Captain E. C. Whitehead has joined the Military Hospital at Glasgow. Captain G. R. Painton has joined for duty at Colchester.

Lieutenant G. Wilson has embarked for a tour of service in India. Lieutenant B. Biggar has left London for duty in Egypt. Lieutenant G. H. Dive has been transferred from Tientsin to Peking for duty with the British Section of the Legation Guard. Lieutenant A. G. J. MacIllwaine has been transferred from Aldershot to Deepcut for duty at the Section Hospital. Lieutenant E. L. Fyffe has left the Military Hospital at Cork and taken up duty at Poona. Lieutenant C. H. Harold has been placed on special duty at Rawal Pindi Cantonment for a course of instruction in Indian sanitation and preventive medicine. Lieutenant E. G. S. Cane and Lieutenant F. A. Robinson have embarked for a tour of service in India. Lieutenant R. F. Bridges has been transferred from the Second (Rawal Pindi) Division to the First (Peshawar) Division for duty at the Headquarters Military Hospital. Lieutenant J. M. Elliott has been transferred from the Military Hospital at Portsmouth to Hilsea. The following Lieutenants will be required for service abroad during the coming trooping season: B. H. H. Spence, W. B. Laird, R. Davidson, H. S. Blackmore, J. M. Elliott, F. R. B. Skrimshire, D. W. Bruce, T. E. Osmond, R. T. Vivian, E. G. H. Cowen, L. Buckley, and W. L. Webster.

## INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. R. M. Green, Bengal Establishment, has been selected for the advanced rate of pay under Article 7 of the Royal Warrant. Lieutenant-Colonel J. R. Adie has been granted six months' extension of his leave of absence home from India on medical certificate. Lieutenant-Colonel Sir R. Havelock Charles, G.C.V.O., has been granted the temporary rank of Surgeon-General, while employed as President of the Standing Medical Board at the India Office. Lieutenant-Colonel H. E. Banatvala has been selected to officiate as Inspector-General of Civil Hospitals in the Central Provinces during the absence on eight months' combined leave home from India of Colonel G. W. P. Dennys.

Major A. Fenton has been selected for appointment as officiating First-class Civil Surgeon under the Government of Burma during the absence on leave of Lieutenant-Colonel R. H. Castor. Major S. P. James has taken up special duty under the Government of Ceylon for a period of one year. Major W. J. Niblock has arrived home on leave of absence from India. Major E. R. Rost and Major E. L. Ward have been awarded the Kaisar-i-Hind medal of the First Class for public services in India. Major H. J. Walton has been selected for appointment as Professor of Pathology on the staff of King George's Medical College at Lucknow. Major H. W. Illius has been selected for appointment as Civil Surgeon at Rae Bareli. Major C. B. Prall has taken up duty at Lucknow as Superintendent of the Central Prison. Major E. J. Morgan, on return from leave, has been selected for appointment as Civil Surgeon at Sitapur. Major J. W. Lethbridge has been granted 15 months' leave of absence home from India by the Foreign Department. Major J. Stephenson, Principal of the Government College at Lahore, has been appointed a Fellow of the Punjab University. Major V. G. Drake-Brockman, Agency Surgeon of the Second Class, has been selected for appointment as Civil Surgeon at Dera Ismail Khan.

Captain W. S. McGillivray has been selected for appointment as Specialist in Otology, Larnygology, and Rhinology. Captain A. G. Tresidder has taken up the appointment of Substantive Medical Officer to the 87th Regiment of Punjabis. Captain A. E. J. Lister has been selected for appointment as Professor of Physiology at King George's Medical College, Lucknow. Captain P. M. Rennie has been granted an extension of leave of absence home from India for five months for study purposes. Captain F. W. Sumner has been selected for appointment as Civil Surgeon at Farrukhabad. Captain J. McPherson has joined the Mewar Bhil Corps as Medical Officer under the Foreign Department. Captain F. S. Smith has been selected for appointment as Substantive Medical Officer to the 120th Rajputana Infantry. Captain F. N. White has been selected for appointment as officiating Secretary to the Director-General of the Indian Medical Service in the Sanitary Branch during the absence of Major A. G. McKendrick. Captain F. C. Fraser has taken up temporary duty in connexion with plague prevention under the Government of Madras Presidency.

## TERRITORIAL FORCE.

*Royal Army Medical Corps.*

2nd East Lancashire Field Ambulance, Royal Army Medical Corps: Quartermaster and Honorary Lieutenant John Walter Graham Steell, from the 1st East Lancashire Field Ambulance, Royal Army Medical Corps, to be Transport Officer with the honorary rank of Lieutenant (dated March 27th, 1913).

*Attached to Units other than Medical Units.*—Captain Frederic W. Kendle to be Major (dated Feb. 21st, 1913). Lieutenant George B. Gill to be Captain (dated Feb. 25th, 1913). Major James A. Wilson resigns his commission, and is granted permission to retain his rank and to wear the prescribed uniform (dated April 16th, 1913). Major William Ernest Miles, from the 3rd (City of London) Field Ambulance, Royal Army Medical Corps, to be Major (dated March 13th, 1913).

## COLONIAL MEDICAL SERVICES.

*Colonies and Protectorates.*—Dr. W. W. Martin, Dr. J. W. Adams, and Dr. J. London have been selected for

appointment as Medical Officers in the Straits Settlements; Mr. J. M. G. Ewing has been selected for appointment as a District Medical Officer, St. Vincent; Mr. W. N. A. Paley has been selected for appointment as a Medical Officer, Fiji; Mr. W. S. Coffey has been selected for appointment as a Medical Officer in the Federated Malay States; and Dr. Orme has been seconded from the Federated Malay States Service to act as Principal Medical Officer, British North Borneo.

### EXAMINATION FOR APPOINTMENTS AS ACTING SURGEONS IN THE ROYAL NAVY MEDICAL SERVICE.

At the examination for the Naval Medical Service held on April 7th, 8th, 9th, and 10th, 1913, 14 candidates were successful. The maximum number of marks obtainable was 2400.

| | Marks. | | Marks. |
|---|---|---|---|
| A. M. Henry ... ... ... | 1785 | M. Mechan ... ... ... | 1385 |
| G. F. B. Page, M.B. ... | 1605 | H. E. Y. White, M.B. ... | 1373 |
| A. J. Patterson ... ... | 1563 | A. Simpson, M.B. ... ... | 1343 |
| D. G. Arthur ... ... ... | 1466 | F. C. Wright ... ... ... | 1318 |
| B. E. P. Sayers ... ... | 1457 | I. S. Gabe... ... ... ... | 1290 |
| W. A. S. Duck ... ... ... | 1456 | A. J. Tozer ... ... ... | |
| P. B. Wallis ... ... ... | 1413 | D. P. H. Pearson ... ... | 1283 |

### JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The first article in the April number of the *Journal of the Royal Army Medical Corps* occupies 36 pages of the issue, and is a very interesting and concise account of Dark-ground Illumination in Microscopical Work, by Maurice A. Ainslie, R.N., Naval Instructor to H.M.S. *Britannia*. The method here explained, though not new, has received considerable attention in recent years, especially in the study of bacteria in their living state, and the author devotes his opening remarks to an historical summary of dark-ground illumination and the use of the condenser. It should be mentioned that, although the methods of Seidentopf and Zigsmondy are, strictly speaking, a form of dark-ground illumination, the author excludes these methods as being outside the scope of the present article. In successive little chapters he deals with the refractive index and numerical aperture, the various optical systems employed for dark-ground illumination, stops, objectives, eyepieces, and illuminants, and gives practical instructions for the adjustment of apparatus. The article is illustrated by some very clear diagrams and will be appreciated by those who wish to have a clear insight into the principles of the subject with which it deals. An address given to medical officers and assistant surgeons at Peshawar on medical tactics at the beginning of the year by Colonel R. H. Firth, included in this issue, is intended as a guide as to what officers should or should not do if they find themselves in charge of medical unit staff rides, and the author emphasises the need of keeping simple and frequent notes of the position and condition of units. An article by G. Fahey, late 88th Connaught Rangers, whose opinions and suggestions with regard to the hygiene of the soldier formed an interesting feature of recent issues of the journal, is worthy of thoughtful perusal, the subject of the paper being "Regimental Stretcher-Bearers."

### THE ROYAL ARMY MEDICAL COLLEGE.

The Secretary of State for War will present the prizes at the Royal Army Medical College, Grosvenor-road, S.W., on the conclusion of the 105th session on April 29th, at 4 P.M.

### THE IMPERIAL SERVICES EXHIBITION, EARL'S COURT, S.W.

The committee of the Royal Artillery Mess have lent an imposing marble statue, entitled "Armed Science," to the Imperial Services Exhibition, which will open at Earl's Court on May 31st, and the National Lifeboat Institution will show a full-sized lifeboat, together with various other appropriate exhibits. The general committee of the Imperial Services Exhibition are offering prizes for members of the British Red Cross Society to be competed for by the Women's and Men's Detachments of the Voluntary Aid Organisation throughout the country. The finals and semi-finals of the competition will be held at the exhibition, and will last a week. The Red Cross Society are providing an interesting exhibit in the grounds, where practical demonstrations of ambulance work will be given. The West African Force will also have an exhibit. It will consist of a representation of a camp with models of the various types of troops employed in West Africa. In order to provide for the comfort of the large number of ex-soldiers and sailors who have been employed in preparing the exhibition, arrangements have been made for a canteen and recreation room to be used by the ex-service men.

### ROYAL NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund, held on April 8th, Sir J. N. Dick, K.C.B., in the chair, the sum of £70 was distributed among the several applicants.

### THE ANTARCTIC DISASTER.

Surgeon E. Atkinson, R.N., arrived at Plymouth on April 15th on board the New Zealand Shipping Company's steamer *Remuera*, accompanied by Mrs. Wilson, widow of Dr. Wilson.

# Correspondence.

"Audi alteram partem."

## A QUESTION OF CONTRACTS.

*To the Editor of* THE LANCET.

SIR,—The Scottish Commissioners under the National Insurance Act called for Friday last at Edinburgh a conference on the problem of the migrant and the summer visitor. Invitations were issued to Medical Committees to send representatives, and to clerks to Insurance Committees and others. On entering the room delegates were handed eight typewritten foolscap sheets dealing with the system proposed. After a speech by the chairman, Dr. McPhail was called upon to explain the proposals. Briefly, it was proposed to form a general pool and to pay by fee for service rendered. To form the pool it was proposed to deduct so much from the amount (*7s.*) payable to doctors for each insured per annum.

Two methods were offered: (*a*) A deduction of 1*d.* per quarter for each insured; this has the merit of simplicity at least. (*b*) The pool was to be obtained by deductions based on a so-called "illness value." Dr. McPhail referred the explanation of this system to Dr. Currie, the "onlie begetter" thereof. It was recommended as being fairer in its incidence, but it was obviously too complicated to be grasped by the meeting even after explanations.

From the point of view of the medical profession the important features were (1) payment by fee for migrants and visitors; (2) fee fund to be obtained by deductions from the 7*s.* payable to each doctor for every insured on his list. The chairman was promptly asked the following question: "Doctors having already signed a contract agreeing to serve under published Regulations, have the Commissioners any legal power or right to make any deductions from the 7*s.*?"

The chairman spoke at large, but would not answer the question. Dr. McPhail followed, and also avoided giving an answer, and then, as this was firmly requested, Mr. Fraser, the legal member, rose. At first he refused to commit himself, but in the end acknowledged that the Commissioners had no legal power to make these deductions. The point was raised, not in any way for the purpose of wrecking any reasonable scheme to overcome a pressing difficulty, but to establish at once the fact that every doctor's agreement with an Insurance Committee was a contract binding on both parties and only to be varied by agreement of both parties. The Commissioners' scheme must shortly be placed before the Medical Committees, and it was obvious at the conference that every effort would be made to rush it through.

You, Sir, will therefore be doing a great service to Medical Committees by giving wide publicity to the fact that the Commissioners have publicly acknowledged that they have no legal right to vary the Regulations this year without the consent of those who have signed their contracts. The Commissioners' scheme is a reasonable attempt to overcome a pressing difficulty—though by no means perfect—for one thing, no attempt had been made to make arrangements for those moving about within the limits of any single area—e.g., from one side of Perthshire to another. The amount of deduction, the method of deduction to form a pool for payment, the checks upon fraud, and the fees for service rendered are all matters for friendly discussion, but I think you will agree that more important is the sacredness of a contract. I am, Sir, yours faithfully,

HORACE C. COLMAN, M.D. Edin.

Broughty Ferry, Forfarshire, April 13th, 1913.

## IODOFORM INJECTIONS IN PULMONARY TUBERCULOSIS.

*To the Editor of* THE LANCET.

SIRS,—I read with interest Dr. E. Curtin's letter in THE LANCET of April 12th. He either omits to mention or has not experienced those dangers and inconveniences to the patients resulting from this treatment, upon which stress has been laid by writers in both medical and lay papers. I venture to offer a few remarks bearing directly on this aspect of the subject.

During the past few months I have administered iodoform dissolved in ether, plus a small percentage of "paroleine," intravenously to 54 patients (32 men, 20 women, and 2 children) in different stages of pulmonary tuberculosis, the total number of injections being 1800 odd. If the technique be carefully and correctly observed the whole matter should be absolutely painless. The patient usually experiences a transient fit of coughing of from 10 to 20 seconds' duration.

In but one case in the series was the coughing excessive; this unpleasant, and in some cases possibly dangerous, symptom was obviated by only allowing the fluid to enter the blood stream minim by minim, with an appreciable interval between each drop. In two other cases slight hæmorrhages certainly occurred, but whether *post hoc* or *propter hoc* it was quite impossible to ascertain; when the sputum became clear the injections were continued, and no return of the hæmorrhage took place. Up to the time of writing no patient has objected to the treatment on the grounds of personal discomfort.

I purposely refrain at present from drawing any conclusions as to therapeutic value, only a limited number of patients having completed the treatment.

I am, Sir, yours faithfully,

FRANK CROSBIE, M.D. Dub. Univ.

The Hospital, Newcastle, co. Wicklow, April 14th, 1913.

## TUBERCULOSIS OFFICERS, SCHOOL MEDICAL OFFICERS, AND THE MEDICAL OFFICERS OF HEALTH (SUPERANNUATION BILL).

*To the Editor of* THE LANCET.

SIR,—I should like to thank Dr. Alexander Graham for his timely letter in THE LANCET of April 12th, and to support his appeal for the urgent need of an amendment to the Medical Officers of Health (Superannuation) Bill, so that under "medical officers of health" school medical officers and tuberculosis officers will be included as well. I wish to specially urge the inclusion of tuberculosis officers for the following reasons:—

1. They are whole-time medical officers, and as such are unable to augment their income by doing other work. A part-time medical officer of health is included in the Bill. He usually has a large and lucrative general practice, and is in a better financial position than the tuberculosis officer.

2. Better men will undoubtedly apply for these posts if there is an assured superannuation scheme attached to them. The advantage to the community is obvious.

3. If medical officers of health are singled out for the superannuation scheme and tuberculosis officers excluded, the latter will feel under a grievance which cannot favourably affect the harmonious relations between them which are necessary in the public interest.

4. It should be easy and practical to include tuberculosis officers because all these appointments are quite new, and, therefore, payments can be made in every case from the commencement of the appointment.

I trust every tuberculosis officer will support Dr. Graham in this important matter by writing to him as he suggests. I am, Sir, yours faithfully,

G. LISSANT COX,
Tuberculosis Officer for the County Palatine of Lancaster.

County Offices Preston, April 12th, 1913.

## THE INDIVIDUAL TREATMENT OF DIABETES.

*To the Editor of* THE LANCET.

SIR,—The celebrated exclamation, "Vous êtes orfèvre, Monsieur Josse," from *L'Amour Médecin*, came to my lips after reading Dr. Arany's able paper on "The Individual Treatment of Diabetes."[1] When he writes that our duty is to accommodate our treatment to each individual case, I feel sorry for the poor opinion he seems to have of the pre-Arany era penny-in-the-slot treatment we must have evidently indulged in. But when he concludes that as regards dietary conditions the Austrian spas are "quite reliable" (*parbleu!*), that the German ones are "not quite so good," and that in the French resort "the patient is almost left at large," I really feel I cannot let such a drastic statement pass unchallenged.

If Dr. Arany had taken the trouble to come to Vichy and see for himself—as so many British doctors do to whose evidence I appeal—he would know that for several years the diet question has been settled in all leading Vichy hotels, to say nothing of the specialised *maisons de régime*. In every one of these places he will find a special cuisine for cases of diabetes and another one for cases of gastro-hepatic disorders. Our patients are individually directed as regards their diet, and if the system is not "quite reliable," I would feel grateful to Dr. Arany if he kindly pointed out the fault. Or are we to admit that our patients are at large while we French doctors are mentally "*au maillot*," and that, to reverse the balance, Carlsbad patients are stringently "*caporalisés*," while their doctors, as seems to me, are at large? I am, Sir, yours faithfully,

GUSTAVE MONOD,
M.D. Paris, L.R.C.P. Lond., M.R.C.S. Eng.

Vichy, April 6th, 1913.

## 42 YEARS OF CONTRACT SERVICE.

*To the Editor of* THE LANCET.

SIR,—The position of "parish doctor" may not be a very lofty one in our profession, and is not thought much of either by some practitioners or by the British public. The title is unfortunate and the pay is small. But the office is an honourable one and important to the health of the general community, for complaints are apt to be caught from the pauper, even by the rich and mighty in the land.

In 1871 I succeeded Mr. B. Hands as parish doctor of Hornsey, where he had been the sole medical resident for 47 years. He was a contemporary of my own father at St. Bart.'s Hospital, both being apprenticed to John Abernethy. Now, retiring after 42 years' service, I am fortunate enough to be able to say that I have not had a single official complaint as to my treatment of the poor. My salary has remained the same throughout, though the population of the district has increased from below 20,000 to about 90,000. On the whole I have enjoyed the position, more especially the post of public vaccinator, in which I have preached the common sense of the procedure, while I can honestly say that I have never seen any ill-effects from it.—I am, Sir, yours faithfully,

F. ORTON,
Surgeon-Lieutenant-Colonel, V.D. (retired).

Crouch End, Hornsey, N., April 6th, 1913.

*** We congratulate our correspondent and the authority with whom he has worked upon this long and useful record.—ED. L.

## THE POSITION OF ASSISTANT MEDICAL OFFICERS IN ASYLUMS.

*To the Editor of* THE LANCET.

SIR,—I have read with some interest and considerable astonishment the letter of your correspondent "Reform" in THE LANCET of April 12th. The assertions he makes regarding the position and work of assistant medical officers in asylums appear to be much too sweeping. These conditions may exist in some asylums, but they certainly do not in all. My asylum experience extends over 20 years, and in no

[1] THE LANCET, March 29th, 1913, p. 884.

case have I found conditions prevailing such as described by your correspondent.

In every asylum I have been connected with each medical officer has had his own section and was responsible entirely for both the medical and surgical treatment of the patients under his care, and only in very rare instances has any outside surgical assistance been requisitioned; indeed, many operations are performed by the medical officers of asylums which the average general practitioner would not undertake. Several asylums have well-equipped pathological laboratories, and the assistant medical officers are encouraged to undertake scientific research. An essential feature of the assistant medical officer's work is to study the mental peculiarities of his patients, and to note the influence of mind on body. This must be of great assistance to him if eventually he decided to take up general practice. Moreover, his work in asylums trains him to recognise and treat early symptoms of mental aberration in his patients. As to the promotion of assistant medical officers, there is no doubt a certain amount of luck, but, as in other branches of the profession, steady and conscientious work usually meets with recognition.

I do not agree with your correspondent regarding the lack of skilled nursing in asylums. I am pleased to say I have met many excellent sick nurses, both male and female, and the course of study required for the nursing certificate of the Medico-Psychological Association is both thorough and comprehensive. In addition to the ordinary training in nursing, instruction in massage is now given in some asylums. I would point out to "Reform" that a large part of the training of nurses in asylums falls to the lot of the assistant medical officer, and that a keen medical officer usually means keen and competent nurses.

I am, Sir, yours faithfully,

F. R. P. TAYLOR.

East Sussex County Asylum, Hellingly, April 15th, 1913.

## PROFESSIONAL FEES IN BANKRUPTCY.

*To the Editor of* THE LANCET.

SIR,—There is at present before Standing Committee B of this House a measure entitled "A Bill to Amend the Law with Respect to Bankruptcy and Deeds of Arrangement."

As the law now exists, under the preferential payment in the Bankruptcy Act of 1888, there shall be paid in priority to all other debts certain rents, rates, salaries or wages of clerks, servants, workmen, &c. To these classes entitled to priority I sought to add, without success, the fees due to professional nurses. I instanced cases where, after prolonged attendance on a patient, they were obliged to accept a compensation of 2*s.* in the £, the same as an ordinary trade debtor. I am confident that it only requires public attention to be drawn to the gross injustice possible to a noble profession under the existing law to have it altered. If those interested or sympathetic will only speak out between now and the report stage of the Bill I have no doubt the necessary amendment of the law would appeal to the sense of justice of all parties in the House.

In my opinion, the medical profession have also a strong claim for an amendment in the existing law under which, as it is at present, their fees only rank as ordinary creditors. I think that for some considerable time before a receiving order is granted, their fees should rank with those entitled to priority of treatment.

I am, Sir, yours faithfully,

House of Commons, April 15th, 1913. PATRICK WHITE.

## "PSEUDO-BABINSKI" SIGN IN ANKYLOSIS.

*To the Editor of* THE LANCET.

SIR,—The impression has always been received that the Babinski extensor response to stimulation of the sole of the foot was pathognomonic of diseases of the descending pyramidal tract, the one exception being the post-epileptic response. In the phthisis wards at the Leeds City Hospitals there was recently a patient who had an ankylosed knee-joint due to old tuberculous disease. On testing this man's reflexes we discovered that he gave a "Babinski" with the toe of the ankylosed limb. Dr. H. de C. Woodcock, visiting physician to the tuberculous wards, who was going round with me, stated that he had, with Dr. W. Craig Stewart, of Leeds, seen another similar case of pseudo-Babinski following ankylosis of the knee-joint, and that he had brought the phenomenon to the notice of Dr. Edwin Bramwell, who considered that the explanation might be found in irregular tonicity in the extensor tendons and muscles of the foot, and that on stimulation the extensor tendons contracted more slowly than in the normal condition. Dr. Woodcock had also sought the opinion of the late Dr. G. A. Gibson, of Edinburgh, and he was inclined to think the explanation would be found in a condition of abnormal irritation in the nerve centres set up by the ankylosis. Dr. Purves Stewart hints at the condition in one page of his book, but I do not remember any reference in other authors. I am, Sir, yours faithfully,

JAMES A. M. CLARK, M.B., Ch.B. Aberd.,
Senior Resident Medical Officer, City Hospitals,
April 14th, 1913. Seacroft, Leeds.

## INFANT MANAGEMENT.

*To the Editor of* THE LANCET.

SIR,—I must admit that when I read a few months ago the brief notice in your columns of Dr. E. M. Brockbank's book on "Children: their Care and Management" I did not feel encouraged to read it myself, and still less to recommend it to my patients. But, as it happened, circumstances brought the book into my hands, and in justice to the author I think I should send you my opinion of it, based on a practical application of its teaching to the needs of my own family. I opened its pages with no feeling of prejudice in its favour. But I quickly found that it contained much that would be helpful to the young mother overwhelmed with the task of bringing up her first baby, and very little that need conflict with the instructions of the up-to-date medical attendant. I disagree, as you do, with certain of Dr. Brockbank's precepts, but on the whole I think his book compares very favourably with the many other books written with a similar intention which I have studied. It seems to me extremely practical and lucid, quite free from mawkish sentiment, and inspired by a sympathetic insight into the difficulties of infant management. The ideal popular work on this subject has yet to be written, but in the meantime I would rather place Dr. Brockbank's book in the hands of an inexperienced but educated mother than any other I know of. I need scarcely add that I am personally unacquainted with the author. I am, Sir, yours faithfully,

April 14th, 1913. M.B.

*** We have pleasure in publishing this unsolicited testimonial.—ED. L.

## INSANITY AND DIVORCE.

*To the Editor of* THE LANCET.

SIR,—Dr. John Batty Tuke, jun., in his letter under the above heading, appears to suggest that the Royal Commission on Divorce has recommended that "after a certain number of years' detention in an asylum insanity should form a plea for divorce." I do not know of any "proposal" relating to insanity as a ground for divorce that need be considered other than that of the Royal Commission, which was not as Dr. Batty Tuke summarises it. The report recommended as a ground of divorce "incurable insanity after five years' confinement." It further recommended as a safeguard with regard to the proof of incurability the appointment of two experts whose duty it would be to examine and report to the court. There might have been a danger of an unjust divorce in the case described by Dr. Batty Tuke if he is satisfied that he himself would have unhesitatingly pronounced his patient to be incurable at the end of the first five years of her confinement, and if, in his opinion, the two official experts would have been unanimous in pronouncing her incurable after hearing his narrative of steady and uninterrupted improvement. It may be noticed that in any case she only missed by three years the exemption proposed by the Royal Commission for married women over 50 years of age. I am, Sir, yours faithfully,

April 14th, 1913. E. A. A.

# MEDICAL PRACTICE UNDER THE INSURANCE ACT.

(BY OUR SPECIAL COMMISSIONER.)

(*Continued from p. 990.*)

## VI.—QUALIFIED APPROVAL OF THE ACT AT DUMFRIES.

### *How the Act was Accepted.*

IN Section 80 (4) of the National Insurance Act special mention is made of the burgh of Dumfries and the police burgh of Maxwelltown. Dumfries is a Royal borough; it has an ancient history and attracts many visitors who come to see the well-preserved haunts of Scotland's great poet, Robert Burns, though its actual population only amounts to 16,061. But if the Royal borough of Dumfries is joined to the police burgh of Maxwelltown the total population of the two is 22,261. This junction is essential under the National Insurance Act, as a burgh, for the purposes of the Act, must have a population of not less than 20,000 inhabitants. So, in speaking of Dumfries in this article it must be understood that Maxwelltown is included in the term, and, indeed, there is only a river of no great width between them.

Of the population in these joint burghs some 7000 are insured persons, and in the early days of March 6700 had selected their medical attendants. All the practitioners of Dumfries, except a specialist for diseases of the ear and throat, are on the panel. The panel consists of eight practitioners and three assistants, so that there is more medical service obtainable than is needed for panel work only. At first the medical men were all opposed to the Act and were resolved to have nothing to do with it. But these bold resolves cooled down when it was discovered that at Glasgow, even before Christmas, medical practitioners were willing to go on the panel, and that in Ayrshire and Stirlingshire all went in. The Dumfries Insurance Committee could have imported medical men from Glasgow and could have offered a sufficient income to induce five or six to come. This would have ruined all the newly established practitioners and seriously injured the others. Indeed, half the population would have been lost so far as the medical practice of the established practitioners is concerned. Then, looking closely into the matter, the medical profession began to hold that the terms under the Insurance Act were not so bad, and that, indeed, in some respects they offered advantages over pre-existing arrangements. In any case, this much can be said for the attitude of the Dumfries practitioners: it does not seem to have been influenced by political preferences. A practitioner known to be a convinced Conservative nevertheless emphatically approved of the Act, while a large proportion of Liberals were as thorough in their opposition. One thing all agree the Act has done. Here, as elsewhere, it has brought the profession much closer together.

### *All Contract Work Outside the Act Abolished.*

Before the Act was working there existed at Dumfries branches of several Friendly Societies, such as the Foresters, the Oddfellows, and the Free Gardeners. Four practitioners held appointments from these various bodies. When, however, the Insurance Bill was introduced all the medical men of Dumfries held a meeting to discuss the situation. It was then decided that the first thing to be done was to give up all such contract work and not to accept any other similar appointment. It is something to be able to relate that this agreement has been faithfully kept. To-day at Dumfries there is no other contract medical work being done except what is being done under the Insurance Act. The practitioners have shown such unanimity throughout that it was not surprising to hear more than one among them say, "We could fight better now"; but they may still have many opportunities of showing the strength of union. Here, as elsewhere, a fight may occur with regard to the dependents on insured persons.

### *The Question of Mileage.*

Undoubtedly a good many paying patients have now become insured persons, and the difficulty is to know what policy to follow so as not to lose still more of those who remain as private clients. This problem presents itself in regard to attendance upon domestic servants. There are many small landed estates round about Dumfries held by well-to-do families who are not extremely wealthy. The servants of these families are now insured persons, and if the family practitioner is not on the panel then the servant would introduce some other practitioner into the household. This means that the town practitioner puts his name on one or more neighbouring country panels where the estates of his best patients are situated. But having done so, he is apt to be called out of town, not only to attend his well-to-do clients and their servants, but anyone else who, seeing his name on the panel, has asked to be put on his list. It is not always prudent to refuse such tribute to popularity, and it is easy to imagine circumstances where to do so would not be right. If an allowance for mileage could be obtained this sort of thing would lose its terrors. But the only mileage allowed is calculated from the house of the medical practitioner who is nearest to the patient and on the panel, and the distance must exceed three miles. Thus a Dumfries practitioner explained to me he was physician to a family living at a distance of nearly seven miles from his house. After going four miles he passed the house of another panel doctor. This was the nearest doctor to his patient's house, and the distance was over two miles; so as the patient is not more than three miles from the nearest panel doctor no mileage is allowed, yet the practitioner who actually attends him has to travel just upon seven miles each way. It is true that a town doctor cannot be coerced into accepting patients living more than three miles from the town, but he is sometimes obliged to do so at Dumfries, for the best patients live on estates at considerable distances from the town. Then not only do the town doctors go out in the country districts, but some inhabitants of rural districts come and seek advice from the town physicians. It is difficult to prevent a good deal of overlapping. The country doctors have, however, one great advantage. They have no local nucleus for contract practice, so it would be absolutely useless for anyone to attempt to import practitioners to compete against them. There would be nothing to offer any imported man that would constitute a sufficient inducement. If the rural practitioner could obtain a more liberal mileage allowance his principal cause for complaining against the Act would be gone was the opinion prevailing at Dumfries.

### *Details of Practice.*

Addressing myself to one of the leading practitioners in Dumfries he at once declared that he was fairly satisfied with the results under the Act. It is true he never had much club practice, but panel practice was an improvement by reason of its better and more severe regulations. He was not now so often troubled on a Sunday, and on week-days the patients observed more strictly the consultation hours. This regulating of practice was in itself a great benefit; it was a fortunate accompaniment of the Act coming into force, as both his private and contract practice had increased since that date. It was not yet possible to tell how many of his former private patients had become contract patients under the Act; but several insured persons had declared to him that they would continue to pay fees as usual. Two such cases which he quoted were of persons who were insured because their regular income was below the income-tax limit, but who generally received a good deal more money in an irregular way, and preferred to pay for the conveniences of private attendance. This practitioner calculated he had more than 400 insured persons on his list living within a mile of his house. During the first fortnight he received 37 visits at his surgery and had to pay 13 visits to patients in their own homes. These included some trivial cases such as a cut hand, a slight indigestion, a pimple, a gumboil, but there was an urgent case of appendicitis and a severe example of influenza. This was varied by a clerk who came because he had wax in his ear and a shop girl because her nose was too red. A complication arose in regard to a girl with a tuberculous joint, which may be mentioned as illustrative of a procedure that may become common. Formerly this patient was attended on purely charitable grounds. Now her family have paid all her insurance fees and she presents herself on the footing of an employed person. It is very doubtful whether she has any employment. Probably the family pays the fees of a fictitious employer. Other practitioners related that this was also the case with a few of their patients. It is a question, however, whether such

manœuvres do any harm. They were not contemplated by the Act, but if a family pays instead of an employer in any case a payment is effected, whereas formerly the patient was attended purely for charity. Of course, the question of hospital treatment arises here. Many patients formerly treated on charitable grounds at the hospital will now be necessarily relegated to the medical men on the panels. Apart from the town patients, the first practitioner I saw had 50 names of persons who live in the country. Of these, six were ill during the first fortnight; but when he went out to see them he could generally contrive to make his visits in the course of a round in which he would also be visiting some paying patients. As yet, said this practitioner, there had been no hardships, except the excessive clerical work; that, he hoped, would be simplified, and in any case the worst was over.

*The Allurements of Sick Pay.*

The next two practitioners on whom I called were specially concerned about malingering. "The Act will do good, there can be no doubt about that," said the first; "but it does encourage malingering." Many persons got cards to which they were not entitled, he pointed out; and it is astonishing how many people had found out, since the Act came into force, that they could not do any more work. Even youths had discovered how to provoke an indigestion so as to get a holiday. He had half a mind to spoil the fun by prescribing a quantity of blisters. From this and other causes the members of the profession had a great deal more work to do than formerly, and for his part he could not tell whether it would pay better. They must wait until the summer experiences could be summed up before they could speak definitely; undoubtedly the work was hard, very hard now. The experience of both these gentlemen bore out what had been anticipated while the Bill was being discussed in Parliament and in the columns of THE LANCET. Before the Act those who were insured obtained from the Foresters and such societies less sick pay. They never got more than 9*s.* a week from their clubs, so they were more anxious to get back to work than they are now, when they may receive 10*s.* from an approved society under the Insurance Act and 9*s.* from another society. In these circumstances there was no need to hurry back to business. The next practitioner on whom I called went further than this. He knew of men who belonged to two Friendly Societies, so that when they were ill they got 9*s.* from the one, 9*s.* from the other, and 10*s.* insurance money, making 28*s.* a week, which was more than some of them could earn while in full work. Thus some men are literally living on their societies. There is, of course, this great difficulty that few men are absolute malingerers. Most of them really have a pain or a disability or an inconvenience, or truly believe that they have, but some of them make a serious affair of their trouble, and of course they are persuaded to take up this attitude by its pecuniary inducements. The medical adviser on his side is sorely tempted to sign the certificates quickly so as to secure the patient's prompt departure. Then it is most remarkable how rarely patients get well on a Thursday or Friday. It seems that the rounding off of a week is quite essential for an effective cure. The percentage of recoveries on a Sunday or Monday morning would be quite difficult to explain, if explanation were useful. But this was always the case with sick pay under the old club system, and must be regarded as a sort of accepted abuse. It cannot be prevented, but it might be well to watch those who belong to two societies besides being insured persons. Obviously if patients succeed in prolonging the duration of an illness, this means more work for their medical attendant, and a greater drain on the insurance funds. Thus I heard of a man who is a member of three societies and who is also an insured person under the Act. Every time he is incapacitated from work he wants four different certificates, and being only a labourer is better off when in receipt of all these benefits than when earning his usual small wage.

*Effect of the Act on the Patent Medicine Trade.*

At Dumfries, as at Carlisle, the officials of the Friendly Societies are no longer as ready as formerly to work gratuitously or for very small fees. The Foresters, for instance, had a sick steward who gave the money; it was done in a friendly manner among men banded together in a sort of brotherhood. But these men were amateurs, not trained accountants. On the other hand, large business insurance organisations employ only trained accountants, and they do not pay without formality. They are hard-and-fast business men, and the people do not like this, while acknowledging that the officials of the Friendly Societies were not such good managers. This is a big question affecting the whole country and on which much more will have to be said. Then there are a good many who are not fully employed, but are fully insured. For this and many other reasons the question of the ability of those who actually apply the Act is of far-reaching importance. At Dumfries the Prudential was early in the field, and gathered in many newly insured persons. A practitioner who has a large connexion among the Roman Catholic section of the population explained that there was the St. Andrew's Benefit Society to which rich and poor Roman Catholics subscribed, the latter so that they might get medical assistance and the former to help by their subscriptions. But this organisation was not locally strong enough to be recognised under the Act till it federated with other similar bodies in other parts of Scotland. Now that many members of this society are insured their medical officer testified to me that the work was much better regulated. In his experience he found that the insured persons carried out loyally the rules put down by the Insurance Commissioners, and were anxious not to cause unnecessary trouble. Well-paid artisans who paid a good bill nearly every year would now be lost, but there were others who ran up a bill for a year or two and then changed the medical adviser but never paid. These bad debts were now a melancholy memory of the past. These, the authors of bad debts, were all paying now insurance money. The incomes of the profession would undoubtedly increase, but so would the amount of work that they had to do. The practitioner would have more cash in hand—that was sure; whether the increase of income would be in proportion to the increased amount of work that has to be done was quite another matter. It was too soon to form an opinion. Certainly he had quite a number of patients who had told him they were ashamed to take medical benefits and were offering to pay the usual fees. There was one great good he anticipated from the Act; it struck a heavy blow at the trade in patent medicines. Many people who could not pay for medical advice read advertisements of patent medicines and drugged themselves. Now, instead of trusting to advertisements and spending what little money they could afford on the drugs advertised, they would consult their panel doctor. This meant more work for the profession, and the general increase of work had its evil side because it left no time for study. "Medicine was likely to come to a standstill." How many panel doctors were able to find time today to read a medical journal or book, and even when they held branch, divisional, or any other sort of meetings, they no longer talked medicine but insurance. In spite, however, of all these criticisms there was not the bitter feeling against the Act I have noticed elsewhere. Some were convinced that, on the whole, the Act was going to do good; and others were not sure that the evil it was likely to occasion would overbalance the good it would accomplish.

*(To be continued.)*

## THE INTERNATIONAL CONGRESS ON PHYSIOTHERAPEUTICS.

(FROM OUR SPECIAL CORRESPONDENT.)

THE International Congress on Physiotherapeutics was opened in Berlin on March 26th. The inaugural meeting was held in the great hall of the Reichstag, Professor His being in the chair. The meeting was attended by the patron of the Congress, H.R.H. Prince August Wilhelm of Prussia. The number of foreign delegates was especially great. The British army medical department was represented by Director-General Sir W. Launcelot Gubbins and Major C. E. Pollock, R.A.M.C., the Royal College of Physicians by Dr. Archibald E. Garrod, and the Royal Society of Medicine by Dr. Reginald Morton and Mr. William Deane Butcher.

The PRESIDENT, in his inaugural address, said that physiotherapeutics were already highly developed in ancient times, especially during the Roman Empire, but that they had been

neglected with the decrease of general culture in the early Middle Ages. In more recent times the study of anatomy, physiology, and pathology was the principal feature of medicine, and therapy was relegated somewhat to the background, and although certain physical methods continued to be cultivated by laymen, these methods were based upon mere empiricism; and experience without scientific research must naturally lead to uncritical proceedings. Medical science, however, had once more realised the great therapeutic value of physical agents. Only with reluctance did Science approach the methods of physiotherapeutics, but once having done so she had given them an irresistible impetus. There was scarcely one disease that could escape their influence. She found stupendous tasks in the struggle against tuberculosis and cancer, against infant mortality, and disturbance of growth. These methods dominated the therapeutics of metabolism and nutrition, but they also found a satisfying field of activity in numerous ailments, to recognise the earliest beginnings of which was the prerogative of medical science of to-day.

The business of the Congress was begun in general meeting, the subject for discussion being

*The Therapy of the Troubles of Circulation.*

Professor OTFRIED MÜLLER, of Tübingen, discussed the balneotherapy of these conditions. He said that a distinction must be made between the action of balneotherapy on the heart and on the vessels. The carbonic acid baths acted on both the heart and the vessels. Carbonic acid increased the number of the heart beats and the quantity of blood moved at each beat, and the vessels became either dilated or contracted according to the temperature of the water. Cool carbonic acid baths increased the quantity of blood but retarded the cardiac action; the heart worked more slowly, but more forcibly and more equably; the peripheral arteries became contracted, and those of the interior dilated; the blood pressure became higher and the respiration deeper, so that congestions were compensated. A carbonic acid bath was like a gymnastic lesson for the heart. In the hot bath the blood pressure decreased, the heart had less work, and thus was spared. Tepid baths produced a slight increase of the number of heart beats without a marked influence on the blood stream, and such baths should therefore be administered at the beginning of treatment.

Professor VAQUEZ, of Paris, spoke on the dietetics of circulatory troubles, and said that in arterio-sclerosis and increased blood pressure troubles of the circulation might be avoided by proper food. Patients suffering from arterio-sclerosis should eat rather little, avoiding as much as possible meat and salt. In severer cases vegetable food and milk were indicated; when troubles of circulation became obvious meat should be totally done away with. Patients with cardiac diseases should avoid salt, albuminous substances, and too large a quantity of fluid.

Dr. ZANDER, of Stockholm, spoke on the mechanotherapy of troubles of the circulation. He was of opinion that by gymnastic exercises the circulation in the lungs was rendered easier, so that more oxygen was absorbed by the muscles. The mechanotherapy thus acted less on the centre and more on the periphery of the circulation.

*The Diet in Gout.*

This was the subject of a paper read by Professor MINKOWSKI. He explained that the diet in gout must be free from purin substances, which produced an increase of uric acid. Purin was a production of the cell nucleus. The greater the quantity of cell nuclei the more uric acid was produced. Calf thymus contained ten times more purin substances than meat, milk only one-hundredth the quantity. Eggs, caviare, bread, potatoes, and rice were nearly free of purin; leguminous vegetables contained the same quantity of purin as meat; while a litre of beer contained as much purin as 100 grammes of meat.

Dr. A. E. GARROD said that he preferred a food with a small quantity of purin to a food without purin; a total withdrawal of these substances could not be borne for more than a short time without serious inconvenience and harm to the patient. He considered that the success of dietetic treatment was much exaggerated.

*The Diet in Diabetes.*

On this subject Professor VON NOORDEN, of Vienna, said that many patients could not bear the total withdrawal of carbohydrates and the reduction of albuminous substances in the food; sometimes this diet led to acidosis. In these cases oatmeal was indicated; other carbohydrates, such as lentils or wheat flour, were equally valuable, but he was of opinion that oatmeal had a specific action, the reason for which was as yet unknown. In severe cases of acidosis the administration of alkali was indicated. The value of mineral waters was much exaggerated.

Dr. LABBÉ, of Paris, recommended vegetable cures, alternating with days of fasting and days with albuminous diet, to avoid acidosis.

Dr. BLUM, of Strasburg, said that oatmeal was indicated in cases with imminent coma, in cases with troubles of digestion, and in cases where the sugar did not disappear on the withdrawal of carbohydrates.

The great number of papers and reports read before the Congress makes it impossible even to give the names of all the papers and speakers. It may be mentioned that in the Balneological Section Professor MACHE read a paper on the Absorption of Radium by Drinking and Inhalation Cures; Dr. MORTON, of London, spoke on the Use of Filters in Radio-therapy; and Mr. DEANE BUTCHER on the Rationale of Roentgen- and Radio-therapy. In the Section of Kinesitherapy Mr. R. C. ELMSLIE, of London, read a paper on the Physical Treatment of Tuberculosis of the Joints.

## THE GERMAN CONGRESS ON ORTHOPÆDIC SURGERY.

(FROM OUR SPECIAL CORRESPONDENT.)

THE German Congress on Orthopædic Surgery was held in Berlin on March 24th and 25th, Professor SPITZY, of Graz, being in the chair. The principal subject of discussion was

*Chronic Deforming Arthritis.*

Professor KRAUS, of Berlin, gave a detailed description of the symptoms and the pathology of this disease. He distinguished an atrophic and a hypertrophic form according to the skiagram. Clinically, there are three different forms: infectious arthritis ensuing on tonsillitis or gonorrhœa, uric arthritis, and rheumatic gout. He concluded from his experiences that in the secondary symptoms radium preparations, including thorium X, have a curative action. Adrenalin is valuable in chronic infectious arthritis.

Dr. PONCET, of Lyons, said that some forms of chronic rheumatic arthritis were of tuberculous nature, as was proved by their association with tuberculosis in other organs and the reaction after tuberculin injection. Radium had no effect, but good results were obtained by heliotherapy.

Dr. IBRAHIM, of Munich, spoke on chronic arthritis in the juvenile age, and gave a description of this disease, of which the etiology is still rather obscure. He also believed that some cases were tuberculous.

Dr. PREISER, of Hamburg, spoke on the orthopædic treatment. He said that secondary alteration after progressive destruction must be treated by appliances after tenotomy. In angular ankylosis linear or cuneiform osteotomy was indicated. Plastic operation on the joints must be limited to gonorrhœic arthritis of the elbow or the knee. The rachitic pelvis produced in adolescence by over-exertion in standing, walking, and lifting heavy weights might lead to differences in the knee-joints and eventually to flat-foot. Contractions of the hip-joint must be treated by *brisement forcé*, and eventually by osteotomy.

Dr. PERTHES, of Leipsic, was of opinion that juvenile osteo-arthritis coxæ was caused by a focus of softening in the neck of the femur.

Dr. SCHAWN, of Werde, believed that arthritis deformans was a tuberculous process, which developed in advanced age and after abnormal exertion of the joint.

Dr. BADE, of Hanover, reported that he had seen in 71 of 131 cases of dislocation of the hip-joint after the setting a division of the epiphysis and anomalies of ossification on the head of the femur; these alterations were probably due to rachitis or osteomalacia, but not to arthritis.

Dr. AXHAUSEN, of Berlin, reported that he had produced

by electrolysis on the cartilages of the joints the same alterations as those characteristic of deforming arthritis. He thus believed that necrosis of the cartilages was the cause of the disease.

*The Non-operative Treatment of Pseudarthrosis of the Neck of the Femur.*

Professor LORENZ, of Vienna, speaking on this subject, said that in patients until the age of 40, whose accident had occurred not longer than two months previously, the joint, after energetic mobilisation, was fixed by a plaster bandage in strong abduction and inward rotation. After three months the abduction became diminished and a Hessing splint was applied for one year. In patients whose accident had occurred three or four years previously the joint was mobilised and a raised sole applied. They might then walk a few days later. The results were very good.

*The Treatment of Sciatica.*

Dr. STOFFEL, of Mannheim, read a paper on the treatment of sciatica. He said that sciatica meant an affection of the sensory tracts of the nerve. After these tracts had been accurately made out they were exposed for a distance of 15 cm., and a resection was practised. The ascending degeneration which ensued on the operation led to good results.

*Tendon-transplantation in Infantile Paralysis.*

Dr. STOFFEL also spoke on transplantation of tendons in infantile paralysis. He said that the transplanted muscle must have the same anatomical structure as the paralysed muscle; tension or retraction must be avoided; the transplanted muscle cannot be used at the same time for a correction of the deformity.

*Bone Implantation.*

Dr. BRANDES, of Kiel, recommended the treatment of defects of the tibia by implanting the fibula at two operations into the remainder of the tibia, maintaining on each occasion a connexion with the proximal or distal end of the fibula.

Dr. PELTESOHN reported that he had bridged a defect of the ulna, with dislocation of the head of the radius, by implanting a piece of the fibula. The piece had completely grown together with the ulna. The function was good. The fibula had regenerated.

Other papers read before the Congress concerned the Treatment of Scoliosis, by Dr. E. G. ABBOTT, of Portland, Maine, U.S.A.; the Anatomy of Spina Bifida, by Dr. CRAMER, of Cologne; the Treatment of Hallux Varus, by Dr. LUDLOFF, of Breslau, and others.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*The Certification Scheme.*

UP to the time of writing the Insurance Commissioners have not made known how they propose to deal with certification in those areas where medical men have refrained from putting their names on the certification panels—that is to say, in by far the greater part of the country. Threats have been thrown out of appointing salaried officers to carry out the work, but it would be difficult or impossible to establish an effective scheme on such lines. A circular letter was issued a week ago by the Commissioners to medical men who had put their names on the panels declaring that, as arrangements had taken longer than was expected, the panels could not yet be published. It was added that capitation fees would be paid to medical men on the panels in respect of each insured person to whom they would furnish certificates under the Act, as well as for those who might subsequently select them as their panel doctors. The Commissioners appear also to contemplate removing from some of the Insurance Committees the administration of the panel scheme. Last week a deputation of the Conjoint Committee discussed with the Commissioners the Regulations governing certification, apart from questions of finance, and the Commissioners agreed to make certain amendments to meet the views of the profession. The Commissioners have also in hand the preparation of a scheme for payment for certificates under the National Insurance Act required at hospitals, no provision having been made for this in the panel scheme.

*Sudden Death of a Dublin Physician.*

The death occurred suddenly on April 7th of Dr. W. R. Evans, a respected member of the medical profession in Dublin. He had just finished addressing a religious meeting when he was noticed to be ill, and death occurred in a few minutes. Some hours later his sister succumbed as a result of the shock of her brother's death. Dr. Evans had practised in Dublin for over 40 years, and for some time was physician to the Orthopædic Hospital.

*Free Choice of Doctor in Belfast.*

There seems to be a tendency on the part of some of the Approved Societies to limit the free choice of doctor. The matter came up at a meeting of the Belfast Local Medical Committee on April 10th, when a letter was brought before those present which had been sent out by the secretary of one of these societies stating that the society he represented was recommending the names of several doctors whose certificates in the past they have found they could rely upon, and in whom they have perfect confidence, as those from whom certificates would be received, and asking those to whom the letter was sent to join. A resolution was passed and has been sent to the public press protesting against such action on the part of Approved Societies, and pointing out to the insured that they had all the right of free choice of doctors on the panel. The secretary of the Local Medical Committee was instructed to send a note to the members of the profession in Belfast warning them to have nothing to do with such requests from any Approved Societies. He was also instructed to write to the Irish Insurance Commissioners and to the Belfast Insurance Committee drawing their attention to this attempt to make limited panels. It seems that in Belfast, as in other places, a difficulty is likely to arise in regard to those insured patients who have not chosen a doctor as to how they are to be allotted; the easiest way will be, as has been suggested, to divide them among the practitioners by a combined body consisting of representatives of the Insurance Committee and the Local Medical Committee.

*Infectious Disease in Belfast.*

Typhoid fever, which it was hoped had disappeared from Belfast where in former years it was endemic, has again become prevalent, as in January of 1913 there were 10 notifications, in February 16, and in March 13. Since October 600 cases of scarlet fever have been reported and more than 300 cases of diphtheria (154 were notified in March). In February and March 13 deaths occurred from scarlet fever, 2 from typhoid fever, 14 from diphtheria, 77 from measles, and 12 from whooping-cough. During the same period 148 deaths were due to pulmonary tuberculosis.

*The late Dr. Cecil Edward Shaw.*

It is with sincere regret that I announce the death, after a long illness, at his residence in Belfast on April 10th, from pernicious anæmia, of Dr. Cecil Shaw. Dr. Shaw, who was in his fiftieth year, was the youngest son of the Rev. George Shaw, a well-known Belfast clergyman. Educated at the Royal Academical Institution, Belfast, and at Queen's College, he graduated both in arts and in medicine (he obtained the M.D. in 1887) in the Queen's University of Ireland. Deciding afterwards to specialise in the departments of the eye, ear, and throat, Dr. Shaw studied in London, Marburg, Vienna, and Paris, and subsequently began practice in Belfast, where he was appointed ophthalmic surgeon to the Mater Infirmorum Hospital and assistant surgeon to the Belfast Ophthalmic Hospital, and on the death of Dr. W. A. McKeown he was selected as lecturer in ophthalmology in Queen's College, now the Queen's University of Belfast. Dr. Shaw was a man of wide culture and one of the best amateur photographers in the north of Ireland. Thoroughly conversant with the literature and practice of his own specialty, he gave the greatest personal attention to his hospital and university work, while among his private patients he was most popular. Dr. Shaw was married, but had no family. Sincere sympathy is felt for his widow.

April 15th.

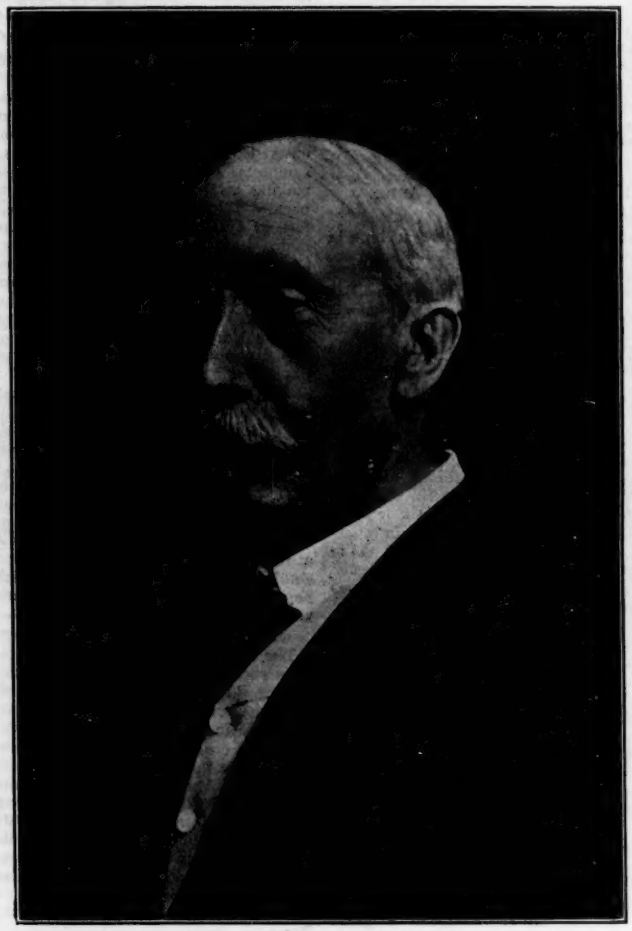
# Obituary.

## SIR HENRY ROSBOROUGH SWANZY, HON. M.D. DUB., HON. D.SC. SHEFFIELD, F.R.C.S. IREL.,

LATE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND; SURGEON TO THE ROYAL VICTORIA EYE AND EAR HOSPITAL, DUBLIN.

Sir Henry Swanzy died at his residence, 23, Merrion-square, Dublin, last Saturday evening, after a few days' illness. He had been suffering for some days with influenza, when heart failure occurred. Few of his colleagues had heard of his illness, and the news of his death, appearing in Monday's papers, gave rise to surprise and sorrow.

Henry Swanzy was born in 1844, the son of a Freeman of the City of Dublin. He was educated in Trinity College, Dublin, where he graduated M.B. in 1865, becoming a Licentiate of the Royal College of Surgeons in the following year. After graduation he spent several years in study abroad, working chiefly at Berlin and Vienna. He was for some time assistant to von Graefe, and he served as surgeon in the Prussian army in the campaign of 1866. Returning to Dublin, he devoted himself to practice as oculist and aurist. He became a Fellow of the Royal College of Surgeons in 1873, and ever since was much interested in the affairs of that corporation. He joined the staff of the National Eye and Ear Infirmary, which some 16 or 17 years ago amalgamated with St. Mark's Ophthalmic Hospital to form the Royal Victoria Eye and Ear Hospital. The union was brought about to a great extent by Swanzy's influence, and he devoted himself heartily to the task of collecting funds for the fine building which now houses the institution. He was for many years ophthalmic surgeon to the Adelaide Hospital.



SIR HENRY SWANZY, HON. M.D. DUB., HON. D.SC. SHEFFIELD, F.R.C.S. IREL.
*(From a photograph by Messrs. Elliott and Fry, Limited, London.)*

In later years honours came thick on Swanzy. His own University conferred on him the honorary degree of M.D., and the University of Sheffield that of D.Sc. He was Bowman Lecturer in 1888. His position was recognised by the medical profession in a marked manner, when in 1897 he was elected president of the Ophthalmological Society of the United Kingdom, a post which he held for two years. He was president of the Royal College of Surgeons in Ireland from 1906 to 1908, and was universally allowed to have discharged his office with efficiency and dignity. In January, 1907, he received the honour of knighthood. In 1911 he was selected as president of the Ophthalmological Section of the International Congress of Medicine which is to meet in London next August, and his loss from the deliberations of that gathering will be felt by many of the foreign representatives, as his work was well known and much appreciated on the continent.

To the literature of ophthalmology he contributed much, and the tenth edition of the well-known "Handbook of Diseases of the Eye and their Treatment," written conjointly with Dr. Louis Werner, was reviewed in our columns as recently as May of last year. The merits of this textbook were recognised on its first appearance and for a long time, despite the increase of ophthalmological knowledge and the consequent difficulty in keeping pace with it in any text-book, the author produced edition after edition unaided. Dr. Werner's name appears on the title page for the first time in 1907, when the book had reached its ninth edition. Hitherto it had been essentially a student's book, but much new matter was added to the ninth edition, and many rare conditions were treated with greater fulness. In many ways the tenth, and last, edition was again an improvement, and we may be permitted to hope that this will prove one of those manuals which long survive the man who originally planned them. Swanzy was also the author of the article on Eye Diseases and Eye Symptoms in their Relation to Organic Diseases of the Brain and Spinal Cord in the "System of Diseases of the Eye," by British and foreign authors, published in London and Philadelphia, and contributed many valuable papers to the Reports of the Ophthalmological Society.

Swanzy's personal character was as rare as his scientific attainments. Intelligence, quickness of perception, judgment, struck even the casual observer. But to those who knew him the prevailing characteristic was his single-mindedness. Whatever his object was—the treatment of a patient, the success of his hospital, the prosperity of the College of which he was a Fellow—he devoted himself to it without permitting anything to turn him aside. He was sometimes impatient of stupidity, and always of anything approaching dishonesty,

and his tongue was sharp when roused. But he bore no rancour, and he was always ready with generous excuses for the failings of others. His keen humour brightened many a dull debate.

Swanzy had a deep love of science, of his profession, and in particular of the Dublin School of Medicine. He maintained a high scientific standard in his own work, and expected as much from others. In recent years he spent much time in the work of the Research Defence Society and was one of the honorary secretaries of the Dublin branch. He was one of the most industrious workers on the Council of the Royal College of Surgeons. Last year he devoted much time to the arrangements for the bicentenary festival of the Medical School of Trinity College, and he was one of the honorary treasurers of the fund which is being raised to perpetuate the memory of that occasion.

He married Mary Knox, the eldest daughter of Dr. John Denham, and granddaughter of the late Major F. A. S. Knox, R.A., by whom he had three daughters.

In the death of Sir Henry Swanzy we have lost one of whom the profession had reason to be proud, not only as a man of science and a surgeon, but still more as a man of high character and noble ideals, in whom there was nothing petty.

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## CHARLES TOZER SAVORY, M.D. ST. AND., M.R.C.S. ENG., L.S.A.

Dr. C. T. Savory, who died on March 27th, was born in 1829 in the City of London. He was educated at Ramsgate, and was originally intended for a commercial life. Thus he did not commence the study of medicine until his 30th year. He was probably largely influenced to this course by the brilliant example of his elder brother, the late Sir William Savory, who was thrice President of the Royal College of Surgeons of England. Charles Savory was a student at St. Bartholomew's Hospital, and in 1862 became a Member of the College of Surgeons and a Licentiate of the Society of Apothecaries. He afterwards graduated at the University of St. Andrews. He practised for 45 years in Stoke Newington and Canonbury in partnership with the late Mr. Edmund Pettifer, who had been a fellow student with him at St. Bartholomew's Hospital. He retired from practice about six or seven years ago, and the last years of his life were spent in retirement at his residence at Crouch End, where he died at the ripe age of 83, having outlived most of his contemporaries.

Dr. Savory was twice married and leaves a numerous family. He was a man of wide reading and culture, charitable and unostentatious; of handsome and dignified presence, he bore a close resemblance to his better-known brother. He was a genial host and a polished and witty conversationalist.

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DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. C. H. Ali Cohen, of Utrecht, chief inspector of health for North Holland. He studied in Groningen, where he acted as assistant to Professor Fokker for many years, and was University lecturer in hygiene, and was afterwards director of the Central Hygiene Laboratory in Utrecht. He was 54 years of age.—Dr. C. H. A. Westhoff, medical director of the Wilhelmina Institution, Bandoeng, whose efforts on behalf of the blind in the Dutch East Indies have been productive of much amelioration of their lot.—Dr. J. C. Huber, of Memmingen, a great authority on clinical helminthology and entomology, aged 82. He edited a German translation of Soranus of Ephesus in conjunction with Dr. Luneburg.—Dr. Gagnon, formerly professor of surgical pathology and of operative medicine in the Clermont Medical School.—Dr. Ph. Hahn, formerly head of the Civil Service in Indo-China.—Dr. Tishutkin, *privat-docent* of histology and embryology in the Military Medical Academy, St. Petersburg.—Dr. John Seeman, professor of physiology in the Cologne Academy of Practical Medicine, aged 39.—Dr. Max Reiner, *privat-docent* of orthopædic surgery in Vienna, aged 49.—Dr. Wurm, of Bad Teinach, Court Councillor of the kingdom of Würtemberg.—Surgeon-General H. Krause of Brandenburg.—Dr. Luiz da Cunha Feijo, formerly professor of midwifery and gynæcology in the University of Rio de Janeiro.—Dr. J. T. Dunn, formerly professor of diseases of the rectum in he Kentucky School of Medicine, Louisville.

# PARIS.

(FROM OUR OWN CORRESPONDENT.)

*An Unsuspected Danger to School Children.*

HYGIENISTS are directing their attention to a hitherto unsuspected source of danger to health. In the public schools it is customary to reward good work and good conduct with crosses or medals, which are worn by the boys—and especially girls—to whom they are awarded. Daily or weekly, according to the regulations of the particular school, these badges change hands on fresh award. As for the most part the children are not content merely to wear them, but contract the habit of sucking and biting them, they afford a sure and easy method for the transmission of infections.

*Emetine in the Treatment of Amœbiasis.*

At the Société Médicale des Hôpitaux on April 4th M. Dopter brought forward some new facts concerning the remarkable efficacy of emetine hydrochlorate in a case of hepatic abscess and of many sufferers from amœbic dysentery. A patient, invalided home from Indo-China, entered Val-de-Grâce for an abscess of the liver, the first symptoms of which made their appearance in October. On making an incision it was found that the abscess had burrowed into the subcutaneous cellular tissue, where it formed a button-shaped abscess. On opening the latter a large hepatic pouch was found, from which escaped about a litre of characteristic chocolate-like pus, which was found on microscopic examination to contain some amœbæ of dysentery. The examination of a fragment of the wall of this cyst revealed numerous similar parasites. That day and on the following days 0·04 gramme of emetine hydrochlorate was injected under the skin of the thigh. As a result of this treatment the discharge of pus quickly subsided, so that at the end of about a week the dressings were no longer soiled. At the same time the patient's general condition, which had been very precarious, rapidly improved. M. Dopter related three other cases of amœbic dysentery of several months'—one of them, indeed, of two years'—duration, in which the use of emetine in like manner caused rapid disappearance of the colic, the tenesmus, and the muco-sanguineous stools, the stools rapidly recovering their normal character. A cure was effected in a few days. Emetine, said M. Dopter, deserves extensive employment in the colonies, especially where intestinal or hepatic amœbiasis carries off yearly a great number of victims.

*Medical Study Travel.*

The thirteenth Voyage d'Études Médicales to the mineral waters and climatic stations of France will take place from August 25th to Sept. 6th next, under the presidency of Professor Landouzy, doyen of the Faculty of Medicine. It will take in the stations of the South-West of France in the following order: Arcachon, Dax, Biarritz, Hendaye, Cambo, Salies de Béarn, Pau, Saint-Christau, Eaux-Bonnes, Eaux-Chaudes, Argelès, Barèges, Saint-Sauveur, Gavarnic, Cauterets, Bagnères de Bigorre, Capvern, Barbazan, Siradan, Bagnères de Luchon. Several bursaries have already been offered to the Voyage d'Études Médicales of 1913 by Professor Henrot, and the Sociétés des Eaux Minérales of Evian-Cachat, Pougues, Vichy, and Vittel-Grande Source. Further information can be obtained from Dr. Carron de la Carrière, Rue de Bagnolet 24, or from Dr. Jouaust, Rue Frédéric-Bastiat 4, Paris.

*Sleeping Sickness.*

An important meeting, which was attended by many eminent medical men, by delegates from the Ministries of the Colonies, and by high officials and agriculturists of Africa, took place recently at the Union Coloniale to discuss means for fighting against the sleeping sickness in Equatorial Africa. Dr. Aubert, director of the Institut Pasteur of Brazzaville, made some comparatively reassuring observations. For a considerable time the disease has ravaged Africa, destroying entire populations. But in the past four years we have ceased to be entirely defenceless against it. By injections of atoxyl it has been found possible to immunise patients for some months, so that for this period they cease to be sources of contagion. Moreover, two remedies, both derivatives of arsenic, which appear to produce a complete cure, hitherto unattainable, are being

experimented with. Dr. Mouleyrat announced that he would place specimens of these products at the disposition of colonial medical officers who wished to make trial of them. Resolutions were passed at the meeting urging the necessity for increasing the number of medical men in Equatorial Africa, for even if the means exist for fighting this scourge the colony almost entirely lacks medical men to apply them. The stringent application of the regulations regarding sanitary passports was recommended, for the sufferer, if allowed to travel, spreads the disease. In the regions most affected delimitation of areas to be placed each under the supervision of a medical man is urged. This medical man should cause the entire administrative routine to be subordinated to the necessity for caring for these patients. Since the physiologically poor condition of the natives predisposes them to the disease, all measures fitted to improve their nourishment and general condition should be taken. In particular the meeting showed itself very favourably disposed towards the establishment of small land holdings among them.

*Migraine of Ethmoidal Origin.*

Before the Academy of Medicine, on April 8th, M. Guisez showed that in nearly 70 cases in which persons had suffered for many years from attacks of headache that resisted all medical treatment, regimen, and even nerve resection, he had found the cause of these migraines to be certain malformations sharply limited to the middle and upper part of the nose in the ethmoidal region. The attacks always began near the fronto-nasal region, around the root of the nose or immediately above the eyeballs, and the pain was always more marked on one side than the other. The pain subsequently became generalised all over the head, being most marked, however, in the frontal region. The attacks often lasted 24 hours, sometimes with nausea and vomiting, and might lead to a condition of profound organic degeneration. Examination of the nose showed hypertrophy of the middle turbinated or of the bulla of the ethmoid. The nasal bone might be pushed outwards. The mucosa was sometimes in a state of myxomatous degeneration, and polypi filled the middle meatus. A cure was obtained by simple local treatment—resection under local anæsthesia of the head of the middle turbinated bone, of the ethmoidal bulla, and removal of polypi—that is, of everything tending to enlarge the region of the upper and middle meatus.

April 15th.

## VIENNA.

(FROM OUR OWN CORRESPONDENT.)

*Number and Distribution of Medical Students in Austria.*

THE total number of medical students in the Austrian universities was 6439 in the last winter half-year, or about 24 per cent. of the total number of university students in this country. The distribution of these medical students among the several universities was as follows: in Vienna, 2824, with 160 females; in Graz, 572, with 12 females; in Innsbruck, 350, with 3 females; in Prague, 572 German and 932 Bohemian students, with 71 females; in the Polish University of Lemberg, 523 males and 106 females; and in the Polish University of Cracow, 529 males and 62 females. In Czernowitz there were no medical students. It is interesting to note that the number of medical students, and especially of female medical students, has been constantly increasing for more than ten years. Whilst the general population has been increasing about 2 per cent. per annum, or 20 per cent. within the last decade, the total number of medical students has gone up by 150 per cent. in the same time, and the female medical students have increased by over 400 per cent. On the other hand, the number of foreign students is going down constantly, mostly for political reasons, because Russian and Balkan students formerly flocked to Vienna, but holders of American and English diplomas come here in increasing numbers for post-graduate study. The figures mentioned above have prompted the taking of an interesting step by the medical corporations. The Union of Medical Councils have given public notice that the medical profession will soon be more than overcrowded, and have asked all the authorities concerned in the management of schools, as well as other public corporations, to warn pupils from taking up this line of study if they intend to follow medical practice as a means of livelihood. They have also explained that at present it takes at least five years to obtain permission to pass the final examinations, which themselves occupy half a year, and a student must afterwards spend at least another two years in hospital study, making 28 years the minimum age at which a practitioner can commence to earn his living. It is accordingly pointed out that the financial prospects for the medical profession will be less than moderate during the next 10 or 15 years, so that unless intending medical students have at least the expectation of an independent income they would do well to take up some other occupation.

*Compulsory Vaccination in the New Austrian Provinces.*

The administrative authorities of Bosnia and Herzegovina, the Balkan provinces acquired by Austria a few years ago, have passed a law making vaccination compulsory. Every child living in these two provinces, the population of which is nearly 2,000,000, must be vaccinated before it is 2 years old, only such children being exempted as have either had small-pox or are too ill to have the operation performed. Every child must be revaccinated in the eighth year of its age. If the operation is unsuccessful it must be repeated in the following year, and if again unsuccessful it must be repeated two years later. Every case of vaccination must be notified to the Board of Health and the officers of public health. This law has been passed because a large number of immigrants from the area affected by the Balkan war have come into Austria and have frequently been the means of introducing small-pox.

*Professor Kraus.*

The well-known bacteriologist, Professor Rudolf Kraus, head of the Serotherapeutic Institute in Vienna, has accepted an invitation to become director of the Institute for Infectious Diseases in Buenos Aires. His duties will be similar to those he has performed in Vienna, for the institute will prepare protective and prophylactic substances for use in connexion with infectious diseases affecting both man and the lower animals. He will also have to organise general measures for the prevention of these diseases. His departure will be a serious loss for our university. He is an eminent authority on the problems of immunity, and not long ago, on the invitation of the King of Bulgaria, he visited the seat of war in the Balkan area for the purpose of advising the military authorities with regard to the prevention of cholera. Professor Kraus will start for his new sphere of work in the month of June or July.

*A Peculiar Case of Cerebral Disease.*

At a recent meeting of the Vienna Gesellschaft der Aerzte Professor Benedikt showed a female patient, 48 years old, who had been brought to him with symptoms of deafness and paresis of the extremities on the left side. She was mentally unstable; her right ear completely deaf, and her left ear partly so. Sensation of temperature was diminished; the glands behind the sternomastoid muscle were enlarged on both sides, and glands elsewhere could be palpated. Professor Benedikt said that the chief interest of the case was in the contralateral cöexistence of deafness and paresis of the limbs, and in the fact that the gait, the position of the fingers and of the whole body, as well as a tendency to propulsion, were very similar to the syndrome found in paralysis agitans. He considered that the combination of symptoms existing in this patient was not necessarily of syphilitic origin, although she had had several miscarriages and a positive Wassermann reaction had been obtained from her. In his opinion too much importance was attached to this serum reaction in cases of tabes and general paralysis of the insane, much to the detriment of the patient. In the patient whom he was showing he suspected cancer in the brain, since a tuberculous nodule could be excluded, and he ordered the administration of ortho-silicate, which has lately been so much advocated in the treatment of cancer. The result was most favourable, for within three months the patient was much improved in every respect, and even her mental activity has been restored. He also reported some experiments with the same treatment in cases of long-standing syphilis in which the central nervous system was attacked (syphilitic hemiplegia), the results being also excellent, and he emphasised the necessity of treating patients operated on for cancer with the same

substance in order to prevent recurrence. He gave doses up to 2 centigrammes (one-third of a grain) dissolved in 1 gramme of distilled water per day.

April 12th.

## UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

*The late Dr. Prince Albert Morrow, of New York.*

Dr. Prince Albert Morrow, the dermatologist and syphilologist, but perhaps even more widely known for his studies in sex hygiene and as a founder of the American Society of Sanitary and Moral Prophylaxis, died suddenly at his home in New York on March 17th, at the age of 66. He was a native of Kentucky, and was educated at Princeton College and at the New York University. He took his A.B. at the former College in 1865 and his M.D. at the latter University in 1874. From 1884–1904 he was attending surgeon at the City Hospital, New York. He was appointed lecturer on dermatology in 1882–3, clinical professor of venereal diseases in 1884, and of genito-urinary diseases in 1886. In 1890 he became emeritus professor of the University and Bellevue Hospital Medical College. For 14 years he was attending physician in the skin and venereal diseases department of the New York Hospital. He was also consulting dermatologist to the St. Vincent's and the City Hospitals. In 1907 he was chairman of the section on hygiene and sanitary science of the American Medical Association, having previously (1890–91) been president of the American Dermatological Association. He had been also president of the American Society of Sanitary and Moral Prophylaxis since its foundation in 1905. Dr. Morrow's literary work includes the editorship of the *Journal of Cutaneous and Venereal Diseases*, of which he was one of the founders, from 1882 to 1892. In 1888 he published an "Atlas of Skin and Venereal Diseases," and in 1892 "A System of Genito-urinary Diseases, Syphilology, and Dermatology," in three volumes. To these must be added a monograph on Leprosy (1899), and particularly his work on "Social Diseases and Marriage," which appeared in 1904.

*Woody Phlegmon.*

In a paper read before the Chicago Medical Society on Feb. 19th last, and reported in the *Journal of the American Medical Association* of April 5th, Dr. W. W. Grant, of Denver, says that it is probable that this disease occurs under some name or form more frequently than has been reported. Its literature is mostly recent, and is reviewed by Grant, who reports two cases in which the phlegmon occurred on the abdominal wall. In both cases bacteriologic examinations were made and staphylococcic infection determined. The cancerous theory will probably soon be abandoned, and, he says, with our existing knowledge, we are justified in concluding that the disease generally occurs after middle life in persons whose resistance has been impaired by previous ill health. The immediate cause is a slow infective process with or without trauma. The dictum of Reclus that it is not due to specific bacteria, but to a variety of germs of mild virulence, seems confirmed. The staphylococci seem to be the chief offenders. The usually slow and protracted course and final resolution are characteristic. Hyperleukocytosis always exists. Grant concludes that the disease will be cured more quickly and completely by free incision (not excision) and serum treatment than by any or all other means known at the present time, and early diagnosis will make the cures more frequent and rapid.

*The Eugenics Record Office.*

This office was established at Cold Spring Harbour, Long Island, in October, 1910, by Mrs. E. H. Harriman, with the assistance of Mr. John D. Rockefeller, and has recently entered upon a new stage of its development. A board of scientific directors has been organised, comprising Dr. Alexander Graham Bell, chairman; Dr. William H. Welch, professor of pathology, Johns Hopkins Hospital, vice-chairman; Professor Irving Fisher, Yale University; Professor Lewellys Barker, of Johns Hopkins Hospital; Professor E. E. Southard, of Harvard University, and director of the Psychopathic Hospital, Boston; and Dr. C. B. Davenport, secretary of the board and resident director. The board met at Cold Spring Harbour on March 21st and organised its work. The aim of the Eugenics Record Office was defined to be as follows. First, to promote researches in eugenics that shall be of utility to the human race. This part of the programme includes: the study of America's most effective blood lines, and the methods of securing the preponderance and relative increase of the best strains; the study of the origin of, and the best methods of restricting, the strains that produce the defective and delinquent classes of the community; the study of the method of inheritance of particular traits; the study of the consequences of the marriages of close kin; the study of miscegenation in the United States; the study both in this country and abroad of the family histories of permanent immigrants. Second, to publish the results of these researches. Third, to provide a fireproof building for the preservation of eugenical records, including genealogical works and town histories. Fourth, to provide an administrative office and staff to carry out the work. The fireproof building provided by Mrs. Harriman which is to form the new home of the office is being rapidly completed. The board of scientific directors will meet each spring at Cold Spring Harbour to consider the projects most worthy of support during the ensuing year, which begins October 1st, and it will meet again in November to receive a report of the work of the office in the preceding fiscal year. The resident director has general charge of the plant and its operations, and is authorised to ask for and receive, in the name of the board, funds to carry on the work of the office. The board voted in favour of the organisation of a eugenics research association, of which a meeting will be called early in June.

*Dr. Friedmann's "Cure" for Tuberculosis.*

A statement has been published by the United States Public Health Service[1] with reference to the appointing of a board of medical officers to make a thorough investigation of Dr. Friedmann's alleged cure for tuberculosis. The board has arranged for a series of demonstrations of his remedy by Dr. Friedmann in certain New York hospitals, and they are to be continued until sufficient information has been obtained for forming an opinion as to the merits of the treatment, which will require considerable time. The board has received a culture from Dr. Friedmann and will experiment with it in regard to Dr. Friedmann's claims as to its harmlessness in warm-blooded animals. The subjects for experiments are selected by the hospital authorities with their own consent from among their own patients, and only a small proportion of the available volunteers can be used. The board particularly cautions against placing any credence in statements in the press ascribed to any of its members, as no opinion has been, or will be, expressed until the work is sufficiently advanced to warrant some conclusion in the matter. The caution thus exhibited is eminently commendable, for there can be no doubt that incalculable injury is done, not only to individual patients, but to the progress of medical science, to individual remedies and methods under investigation, and to old and tried methods of undoubted service so far as they go by the optimistic enthusiasm of some press correspondents on this side.

April 8th.

[1] Bulletin of the United States Public Health Service, March 21st, 1913.

SWANSEA MEDICAL MEN AND CONTRACT PRACTICE.—The honorary medical staff of the Swansea General and Eye Hospital have issued a communication expressing their sympathy with the medical men of Swansea and district in their endeavour to secure more adequate remuneration for contract practice than has hitherto obtained, and their surprise and indignation at learning that the just and moderate demands of their colleagues have been met with an attempt to establish in the town a medical aid association. Recognising that underpaid medical work is equally as bad for the patient as for the doctor, the staff have decided that in the event of the establishment of any society or association, having for its object the employment of medical men under conditions not approved of by the medical profession, they will under no circumstances meet in consultation or have any professional dealings with any medical man holding office under the same, whether in connexion with a patient at his own home or at the hospital. Moreover, they will decline, except in cases of the gravest emergency, to treat in hospital any member of such society. Further, the staff will adopt the same attitude towards medical men undertaking contract work on terms below those decided upon by the medical profession of any district.

# Medical News.

UNIVERSITY OF CAMBRIDGE.—At the examination in sanitary science held recently the following candidates were successful in both parts of the examination:—

Wallace Wright Adamson, Alexander Brownlee, *George Robert Bruce, Charles Chevin Cumming, Accacio da Gama, Henry Newark Featonby, Robert Dunlop Goldie, John Reid Haldane, Allan Byars Hamilton, William Johnstone, Michael Joseph Quirke, Thomas Ruddock-West, William Rutherford, Frank Victor Gordon Scholes, John Davidson Smith, *William Templeton, Frederick Edward Apthorpe Webb, Arthur Robartes Weillington, and Leonard Stephen Willox. * With distinction.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the quarterly examination in Practical Pharmacy held on April 10th the following candidates were approved:—

Claude Hamilton Blair Avarne, London Hospital; Arthur James Bado, St. Thomas's Hospital; Otto Baier, Liverpool University; Percy William Barnden, London Hospital; Cyril Armand Bernard, Liverpool University; Johannes Willem Bouwer, London Hospital; Henry Hutton Castle, St. Thomas's Hospital; Andrew John Chillingworth, St. Bartholomew's Hospital; George Dean Compston, Cambridge University and Middlesex Hospital; Dunstan Thierry Corke, London Hospital; Herbert Leslie Cronk, Cambridge University and St. Bartholomew's Hospital; Francis William Crook, Guy's Hospital; John Duncan Legge Currie, Cambridge University and St. Bartholomew's Hospital; Gauri Dayal, Bombay and Manchester Universities; Sidney Barron Depree, St. Mary's Hospital; Eric Donaldson, Cambridge and St. Bartholomew's Hospital; Keith Mitchell Keitley Duff, Philip Green, and Harold Stanley Groves, Guy's Hospital; Howell Gwynne-Jones and William Tudor Gwynne-Jones, London Hospital; Alfred Risdon Hacker, King's College and Westminster Hospital; Thomas Watson Hancock, London Hospital; Thomas Cornelius Higgins, St. Bartholomew's Hospital; George Graham Bedingfield Holroyde, London Hospital and private study; Tom Ramsden Kenworthy, Leeds University; George Howard Strettell Letchworth, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Arthur Rennie Muir, University College Hospital; William Ewart Neale, Bristol University and University College Hospital; Frank Andrew Miller Nelson, London Hospital; Duncan Westlake Pailthorpe, Charing Cross Hospital; Arthur Bennett Preston, London Hospital; Frank Neon Reynolds, St. Thomas's Hospital; Arthur Norman Rushworth, Cambridge University and St. Bartholomew's Hospital; Thomas William Sheldon and Aly Heidar Taymour, Guy's Hospital; George O'Neill Waddington and Louis Michael Waldron, London Hospital; Arthur Stewart Westmorland, St. Mary's Hospital; George William Wheldon, Guy's Hospital; and Leonard Heatley Woods, St. Bartholomew's Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of the Council of the Royal College of Surgeons on April 10th the undermentioned diplomas were conferred upon the following candidates:—

*F.R.C.S.*—Albert Edward Quine, M.B. Vict., Manchester University, London Hospital, and St. Bartholomew's Hospital.

*M.R.C.S.*—Ainslie Booth, Oxford University and St. Thomas's Hospital; and Harold Gardiner, M.B., B.S. Lond., Guy's Hospital.

*L.D.S.*—Arthur Douglas Crofts, M.R.C.S., L.R.C.P., Guy's Hospital; and Charles Edward Murch, Middlesex Hospital and National Dental Hospital.

UNIVERSITY OF LONDON.—At the Second Examination for Medical Degrees held recently the following candidates were successful:—

*Part I., Organic and Applied Chemistry.*—John Arnold Molony Alcock, Guy's Hospital; George Eric Archer, Victoria University of Manchester; Keith Edward Attenborough, St. Mary's Hospital; Charles Douglas Banes, King's College; Edward Vincent Beaumont, St. Mary's Hospital; Harold John Bensted, Guy's Hospital; John Anthony Birrell, University College, Cardiff; Marian Noel Bostock, London (Royal Free Hospital) School of Medicine for Women; William Wallace King Brown,* St. Thomas's Hospital; Leslie James Forman Bull, St. Bartholomew's Hospital; Albert William Buchan Carless, King's College; Louis Arthur Celestin, University College; Clement Clapton Chesterman, University of Bristol; Allwyn Herbert Clarke,* St. Thomas's Hospital; Doris May Collins, London (Royal Free Hospital) School of Medicine for Women; Julien David Constantin, St. Bartholomew's Hospital; Mervyn Clement Cooper, London Hospital; Joseph Monlas Courtney, St. Mary's Hospital, Ralph Coyte, St. Bartholomew's Hospital; Thomas Morley Cunnington, University College; Dermot Dominic Randal Dale, St. Bartholomew's Hospital; Raghunath Ganesh Dani, University College; Thomas Morris Davies, St. Mary's Hospital; Mahmoud Abu Bakr Demerdash, University College; Hilda Margaret Denton, London (Royal Free Hospital) School of Medicine for Women; Evariste de Robillard, Guy's Hospital; Kingsley Dykes, Dulwich College; Thomas Gray Dykes, University of Liverpool; Florence Majory Edwards, London (Royal Free Hospital) School of Medicine for Women; Thomas Stenner Evans, University College, Cardiff; Guy Fehrsen, London Hospital; Edwin Francis Fernando, University College; William Fletcher-Barrett, King's College; Jean Louis Roger Fortier, St. Bartholomew's Hospital; Andrew Radburne Fuller, St. Mary's Hospital; William Bashall Gabriel, Middlesex Hospital; Aziz Girgis, London Hospital; Edward Norman Glover and Hugh Morgan Gray, Guy's Hospital; Richard Brunel Hawes, St. Thomas's Hospital; Nathan Norris Haysom, St. Bartholomew's Hospital; Thomas Lowthian Heath, Guy's Hospital; Wm. Broke Heywood-Waddington, St. Bartholomew's Hospital; Eric Blanford Hickson, University College; Frederick George Edward Hill, University of Sheffield; Mary Elise Adela Holiday, London (Royal Free Hospital) School of Medicine for Women; Patrick Hughes, St. Mary's Hospital; John Basil Hume, St. Bartholomew's Hospital; James Wynn Hyatt, London Hospital; Thomas John-Thomas, King's College; Victor John Frederick Lack, London Hospital; Edgar Howard Lake and Harold Warburton Lewis, Middlesex Hospital; Naunton Morgan Lewis and Rhys Thomas Lewis, University College, Cardiff; Adrian Lyell-Taylor, St. Mary's Hospital; Francis Courtenay Mason, B.A., Middlesex Hospital; Cecily Margaret Evadne Maude, London (Royal Free Hospital) School of Medicine for Women; Ralph George Mayer, Guy's Hospital; Gladys Mary Miall-Smith, B.Sc., London (Royal Free Hospital) School of Medicine for Women; Maurice William Holt Miles, St. Thomas's Hospital; George Gordon Milne, London Hospital; Leslie Clifford Moore, University of Liverpool; Geoffrey Moulson, St. Thomas's Hospital; Donald Craig Norris, London Hospital; Ray Verner Norton, London (Royal Free Hospital) School of Medicine for Women; Jehangir Hormusji Oonvala, University of Glasgow and London Hospital; Margaret Stuart Palmer, London (Royal Free Hospital) School of Medicine for Women; John William Glanmor Phillips, St. Mary's Hospital; Cyril Valentine Pink, St. Thomas's Hospital; Hywel Tegid Prys-Jones, University College, Cardiff; Walter Murad Abdul Rahman, University College; Mariamne Olive Ramsay, London (Royal Free Hospital) School of Medicine for Women; Sydney Devenish Rhind, King's College; Hedley Norman Dale Richards, B.Sc., Birkbeck College; John Augustus Waring Robinson, King's College; Kenneth Mackinnon Ross, London Hospital; William Richard Rowlands, University of Liverpool; Morris Schwartz, University College; Steuart Noy Scott, King's College and Charing Cross Hospital; Alan Selby-Green, Middlesex Hospital; Ahmad Shafeek, St. Thomas's Hospital; Charles Ernest Alan Shepherd, King's College; Robert Gordon Simpson, London Hospital; George Harold Sims, St. Thomas's Hospital; Lily Dorothea Taylor, London (Royal Free Hospital) School of Medicine for Women; Frederick Alfred Unwin, King's College and Westminster Hospital; Rustam Navroji Vakil, University College; Leonard Pengelly Waghorn, Guy's Hospital; Lotty Weihermann, London (Royal Free Hospital) School of Medicine for Women; John Prichard Williams and Oscar Williams, University College, Cardiff; Thomas Pearse Williams, Middlesex Hospital; Alfred Williams-Walker, the University and Municipal Technical School, Birmingham; Keith Montague C. Woodruff, Guy's Hospital; and William Yeoman, University College.

* Awarded a mark of distinction.

*Part II.*—Arthur Wilfrid Adams, University of Bristol; Hannah Katherine Alton, King's College and London (Royal Free Hospital) School of Medicine for Women; David William Jabez Andrews,*‡ Middlesex Hospital; Edgar Broughton Barnes and Douglas Arthur Blount, St. Bartholomew's Hospital; Cyril Mary Brophy, University College; Frederick Wyndham Chamberlain, Middlesex Hospital; John Edward Clark, Guy's Hospital; Mabel Campbell Clark, London (Royal Free Hospital) School of Medicine for Women; Robert Malcolm Dannatt, St. Bartholomew's Hospital; Ernest Ivon Davies, University College, Cardiff; Llywelyn ap Ivan Davies, University College; Thomas Anwyl Davies, St. Thomas's Hospital; Thomas Reginald Davies, St. Mary's Hospital; Harold Aylmer De Morgan, Middlesex Hospital; Christopher Ignatius de Silva, John Ralph Dingley, and Cuthbert Wynford Ellison, University College; Hubert Henry Lacey Ellison,† St. Bartholomew's Hospital; Israel Feldman, London Hospital; Susan Alfreda Finch and Charlotte Iris Fox, London (Royal Free Hospital) School of Medicine for Women; Olaf Gleeson, Westminster Hospital; Edmund Douglas Granger, St. Thomas's Hospital; Stanley Allman Hall, Middlesex Hospital; Francis Joseph Hallinan and John William Heekes, Charing Cross Hospital; Mary Isabella Hounsfield, London (Royal Free Hospital) School of Medicine for Women; Philip Hudson, University College; Sydney Colin Warneford Iredale and Stanley Walter Isaacs, St. Bartholomew's Hospital; Henry Cecil Jennings,* St. Thomas's Hospital; Rhys Bevan John, University College, Cardiff; Cyril Oscar Howe Jones, St. Thomas's Hospital; James Gaymer Jones and Richard Orthin Hilton Jones, Guy's Hospital; Stanley Burrough King, St. Mary's Hospital; Frank Alexander Knott, Guy's Hospital; Louis Gaston Le Blanc, St. Bartholomew's Hospital; Iorweth Hubert Lloyd-Williams and Edward Richardson Lovell, Middlesex Hospital; Hugh Montagu Cameron Macaulay, St. Bartholomew's Hospital; Owen Sidney Martin, University College; Adeline Mabel Matland, London (Royal Free Hospital) School of Medicine for Women; Ralph Godfrey Michelmore, London Hospital; Sinclair Miller, Queen's University, Belfast; Hickman W. Lancelot Molesworth,* London Hospital; Richard Glyn Morgan, St. Bartholomew's Hospital; Allan Hawkins Morley, London Hospital; Violet Newmarch, London (Royal Free Hospital) School of Medicine for Women; Duncan Collingwood Ogilvie, Middlesex Hospital; Bernard Charles William Pasco, King's College and University College; Lloyd Desbat Phillips, University College; Mary Constance Poonen, London (Royal Free Hospital) School of Medicine for Women; Charles Leslie Grove Powell and Arthur Eaton Richmond, St. Thomas's Hospital; Eveleen Blanche Gibson Rivington, London (Royal Free Hospital) School of Medicine for Women; Tom Wiltshire Robbins, London Hospital; Gordon Wilfrid Ritchie Rudkin, University College; John Elvin Rusby, University of Leeds; Eric Arnold Scott, University College; Michael Cecil Stark and Robert Gee Sterling, London Hospital; Donald Carmichael Thomas, St. Thomas's Hospital; William Leslie Thomas, Middlesex Hospital; Humphrey Quentin F. Thompson, Guy's Hospital; John Ernest Alfred Underwood, B.Sc., University College; Geoffrey Marr Vevers, St. Thomas's Hospital; Herald Joseph Wallace, University College; Philip Hewer Wells, St. Bartholomew's Hospital; Gerald Richard Courtenay Wilson, St. Thomas's Hospital; and Wilfrid Conrad Stanley Wood, King's College.

* Distinguished in anatomy. † Distinguished in physiology.
‡ Distinguished in pharmacology.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

UNIVERSITY OF LIVERPOOL.—At the examination for the Diploma in Tropical Medicine held recently the following candidates were successful:—

J. G. Becker, C. Forsyth, M. C. R. Grahame, K. K. Grieve, A. R. Hargreaves, P. Hiranand, O. E. Jackson, M. MacKelvie, J. McP. MacKinnon, R. J. A. Macmillan, C. E. F. Mouat-Biggs, E. Olubomi-Beckley, D. S. Puttanna, J. H. Reford, F. D. Walker, U. B. Yin, and W. A. Young.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Edmund Forster, *privat-docent* of Neurology, Dr. O. Vogt, Principal of the University Neuro-biological Institute, and Dr. Max Bielschowsky, assistant in the same institute, have been granted the title of Professor.—*Budapest:* Dr. Geza Krepuska, *privat-docent* of otology, has been promoted to Extraordinary Professor.—*Clausenburg (Kolozsvar):* Dr. Elemer Veress, extraordinary professor of biology, has been promoted to Ordinary Professor.—*Gratz:* Dr. Hermann Pfeiffer, extraordinary professor of forensic medicine, has been appointed Extraordinary Professor of General and Experimental Pathology. Dr. Johann Habermann, extraordinary professor of otology, has been promoted to Ordinary Professor.—*Heidelberg:* Dr. P. Lenard, professor of physics, will commence work as Principal of the New University Institute for Radium Research on May 1st.—*Kiel:* Dr. O. Lubarsch, professor in the Düsseldorf Academy of Practical Medicine, has been appointed to the chair of General Pathology and Pathological Anatomy, in succession to the late Dr. Heller.—*Königsberg:* Dr. Ernst Hedinger, professor in Basle, has been offered the chair of Pathological Anatomy, in succession to Dr. Henke, who goes to Breslau. Dr. Paul Bartels, *privat-docent* of anatomy, has been granted the title of Professor. Dr. Henke has been recognised as *privat-docent* of Otology, Laryngology, and Rhinology.—*Leipsic:* Dr. Tillmans, extraordinary professor of surgery, has been promoted to Ordinary Professor. Dr. Ebstein has been appointed Senior Physician of the University Medical Clinic.—*Lemberg:* Dr. Anton Jurasz, extraordinary professor of laryngology and otology, has been promoted to Ordinary Professor.—*Marburg:* Dr. F. Kirstein has been recognised as *privat-docent* of Midwifery and Gynæcology, and Dr. H. Kleinschmidt as *privat-docent* of Pædiatry.—*Padua:* Dr. U. Baratozzi and Dr. A. Farini have been recognised as *privat-docenten* of Medical Pathology, Dr. R. Cecca and Dr. G. Marchetti as *privat-docenten* of External Pathology, Dr. Megardi as *privat-docent* of Ophthalmology, and Dr. F. Silvestri as *privat-docent* of Pædiatry.—*Parma:* Dr. B. Bacchi has been recognised as *privat-docent* of Forensic Medicine.—*Pisa:* Dr. G. Bernardi has been recognised as *privat-docent* of External Pathology.—*Prague (Bohemian University):* Dr. V. Guttmann has been recognised as *privat-docent* of Otology, Laryngology, and Rhinology.—*Strasburg:* Dr. Karl Spiro, *privat-docent* of physiological chemistry, has been promoted to Honorary Professor.—*Tours:* M. Villedieu, first-class pharmacist, has been appointed Professor of Chemistry and Toxicology.—*Turin:* Dr. C. Provera has been recognised as *privat-docent* of Surgery and Operative Medicine.—*Vienna:* Dr. Ottokar Chiari, extraordinary professor of laryngology and rhinology, has been promoted to Ordinary Professor.—*Würzburg:* Dr. Köllner, assistant in the Berlin Ophthalmic Clinic, has been appointed Oberarzt of the University Ophthalmic Clinic.

DEATH FROM ANTHRAX AT WARRINGTON.—An inquest was held at Warrington on April 9th on the remains of a labourer, aged 49 years, who died from anthrax. The deceased had been employed at a tannery in Warrington, and complained that one of his eyes was feeling very sore. Two days later he was admitted to the infirmary, where it was found he was suffering from anthrax. The manager of the tannery said the deceased had been working amongst some salted African hides, in which there was no disease. It was generally the China hides which were affected. Formerly they had used hides from China. At that time the firm came under the Home Office regulations with regard to the provision of washing materials for the men. At the present time they were only treating English, African, and Madagascar hides, and they found that that class of hide did not come into contact with the disease. Mr. W. H. Seal, H.M. Inspector of Factories, said, so far as the Home Office knew, it was not anticipated that there was any danger from imported hides from Madagascar. Careful inquiries would be made, and if it were found that this class of hide was also affected, representation would be made to the Home Office in order that it could be scheduled under the special conditions which covered the importation of China hides. A verdict of "Death from anthrax" was returned.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—A dinner of this association, in connexion with the forthcoming Congress in Paris of the Royal Institute of Public Health, will be held under the presidency of Dr. Harold S. Sington at the Trocadero on Tuesday next, April 22nd, at 7 for 7.30. All graduates of the University of Brussels are welcome. Tickets (5s., not including wine) may be obtained from the honorary secretary, Dr. Arthur Haydon, 23, Henrietta-street, Cavendish-square, W.

CHILDREN'S COUNTRY HOSPITAL AT HESWALL.—The annual meeting of the supporters of this hospital took place on April 10th. In the unavoidable absence of the Lord Mayor of Liverpool the chair was occupied by Alderman Leslie as deputy Lord Mayor. The committee in its annual report made a strong appeal for increased subscriptions. The institution, having for its object the treatment of children for such periods as would insure their restoration to health with the minimum amount of crippling of limbs or other organs, deserves every support, as these children, if not looked after in their young days, would later tend to become helpless drags on the community at large. Two new wards were opened by the Countess of Sefton. The extension increases the available beds to about 150, and it is intended to utilise the new wards, in part, for non-pulmonary cases of tuberculosis from Liverpool under the National Insurance Act. This latest addition to the building has cost about £7500. The ward on the upper floor, which has been named the Agnes Hunt Ward in honour of the noble work amongst sickly children performed by the lady of that name at Baschurch, is already in use, but that on the ground floor—the Holbrook Gaskell Ward—will not be ready for occupation for a few weeks. The former ward is on the open-air principle, but that on the ground floor will be reserved for children whose cases require more sheltered treatment. During the 14 years of Colonel Montgomery's energetic chairmanship £84,000 have been collected for building and for maintenance purposes, about £56,000 have been spent on buildings, and in invested funds there are about £27,000. From all sources over £14,000 were collected last year. The Countess of Sefton paid an eloquent tribute to the valuable services of Mr. Robert Jones, the honorary surgeon to the institution.

UNIVERSITY OF LONDON.—Sir William Collins and Dr. E. L. Gowland have been appointed representatives of the University upon the governing boards of Christ's Hospital, Horsham, and the Wreight and Gibbs School, Faversham, respectively.—Dr. Arthur Robinson has been appointed Fellow of King's College.—Miss Maud Frances Forrester-Brown M.B., B.S., has been appointed to the Gilchrist Scholarship for Women.—Lectures in advanced medical subjects are to be delivered as follows: May 1st (5 P.M.), at St. Bartholomew's Hospital Medical School, Dr. M. H. Gordon, on Sensitised Vaccines; 5th (5 P.M.), at University College Hospital Medical School, Dr. T. R. Elliott, on Disease and the Suprarenal Glands; 8th (5 P.M.), at St. Bartholomew's Hospital Medical School, Dr. H. Williamson, on Some Factors of Importance in Determining the Significance of Albuminuria in Pregnancy; 19th, 21st, and 23rd (4.30 P.M.), at the London Hospital Medical College, Dr. H. M. Turnbull, on (1) Physiological and Pathological Changes in the Structure of Arteries, (2) Arterio-sclerosis; and 28th (4.30 P.M.), at the Brompton Hospital, Dr. C. H. Miller, on the Site of Tuberculous Lesions at Different Ages.—The following advanced lectures in physiology are announced to be given: A course of eight lectures on Surface Tension and Physiological Processes, by Professor A. B. Macallum, at the University, on Tuesdays, at 5 P.M., beginning on May 13th; three lectures on the Anatomy, Physiology, and Pathology of the Corpus Striatum, by Dr. S. A. Kinnier Wilson, at the University; eight lectures on the Physiology of Photosynthesis and Respiration in Plants, by Mr. E. F. Blackman, at University College, on Wednesdays, at 5 P.M., beginning on April 23rd; four lectures on the Physiology of Absorption, by Professor

T. G. Brodie, at King's College, on Wednesdays, at 4.30 P.M., beginning on May 21st; four lectures on the Supposed Physical Basis of Life and Mind, by Mr. J. S. Haldane, at Guy's Hospital, on Thursdays, at 4 P.M., beginning on May 8th; and eight lectures on the Factors concerned in the Volume and Form Changes of Cells (Growth and Movement), by Dr. H. E. Roaf, at St. Mary's Hospital Medical School, on Mondays, at 4 P.M., beginning on May 5th.

DONATIONS AND BEQUESTS.—By the will of the late Rev. C. Bromley, of Maulden, Bedfordshire, the testator bequeathed £500 each to the Bedford County Hospital and the Yorkshire Home for Chronic and Incurable Diseases.—Mr. John Jones, of Wrexham, has by will left £50,000 to the Wrexham Infirmary and has given for the use of the infirmary Roseneath House and grounds, Wrexham, and the Claremont Hydro, Rhyl.

HUNTERIAN SOCIETY.—The last meeting of the session will be held on Wednesday, April 23rd, at St. Bartholomew's Hospital (Library), at 8.30 P.M. This will be the annual general meeting, and the election of officers for next session will be made. At 9 P.M. the winner of the society's annual medal, Dr. A. Graham-Stewart, will read a paper, founded on his prize essay, and entitled "Raised Arterial Pressure and Arterio-Sclerosis," and the medal and certificate will be presented to him by the President.

LITERARY INTELLIGENCE.—Henry Kimpton's Catalogue of Medical and Surgical Works, No. 129, for 1913, includes a number of atlases and illustrated works at reduced prices, among them the first series of the Index Catalogue of the Library of the Surgeon-General's Office, U.S.A. Also several medical curiosa and portraits of eminent medical men. The total number listed is 94.—Among the publications of Messrs. Constable and Company, Limited, is a treatise by Mr. Walter Heape, F.R.S., on "Sex Antagonism," which deals among other matters with Totemism and Exogamy (including a study of Dr. Frazer's theories), Birthmarks, and Fundamental Sex Relationship.

SWISS VITAL STATISTICS FOR 1910.—In 1910 there were 96,669 births registered, a smaller number than in previous years. There were 97,296 in 1909, and 99,468 in 1908. The deaths for 1910 numbered 56,498, a percentage of 1·51 out of a total population of 3,735,049. This also constitutes a decrease in comparison with previous years—59,416 in 1909, 57,697 in 1908, and 59,252 in 1907. Tuberculosis, with 8449 deaths, heads the list with a percentage of 15: 6011 phthisis cases and 2438 of other tuberculous affections. There has been no great reduction of deaths from phthisis during the last five years, the figures being 6008 (1909), 6150 (1908), 6063 (1907), and 6407 (1906). Pneumonia shows 4784 cases (8·5 per cent.), and cancer 4349 cases (7·7 per cent.). The mortality from cancer during the last five years has not varied much, the figures being as follows: 4443 (1909), 4387 (1908), 4175 (1907), and 4342 (1906). Asthenia is responsible for 3599 deaths (6·4 per cent.), and infantile gastro-enteritis for 2385 (4·2 per cent.) 2077 persons died in consequence of accidents (3·7 per cent.), and there were 847 cases (1·5 per cent.) of suicide. Old age is notified in 2058 cases (3·5 per cent.). Only 150 deaths from typhoid fever were reported, and 2 fatal cases of small-pox. Whooping-cough caused 741 deaths (1·3 per cent.); diphtheria, 455 (0·8); measles, 352 (0·6); and scarlet fever, 100 (0·2)—the infectious diseases of childhood making together a percentage of 3.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

*Asylums Officers (Employment, Pensions, and Superannuation) Bill.*

Viscount WOLMER has reintroduced in the House of Commons his Bill "to limit the hours of employment of officers and servants in asylums and to amend the Asylum Officers Superannuation Act." It was read a first time and it has the support of Mr. CHARLES ROBERTS, Mr. STANIER, Mr. WATSON RUTHERFORD, Mr. HIGHAM, Sir JOHN MCCALLUM, Mr. COTTON, Mr. WARDLE, Mr. CHARLES CRAIG, Mr. W. REDMOND, Sir DAVID BRYNMOR JONES, and Sir REGINALD POLE-CAREW.

*University Education in London.*

The final report of the Royal Commission on University Education in London is published as a Parliamentary Blue-book. A large section of it deals with the Faculty of Medicine, and most important recommendations are made in regard to it.

*Select Committee on Patent Medicines.*

Further evidence on behalf of the proprietary medicines section of the London Chamber of Commerce was submitted to the Select Committee of the House of Commons on Patent Medicines on Thursday, April 10th. Mr. E. J. PERRY, a consulting and analytical chemist, expressed the view that the publication of the formulæ of proprietary articles would not diminish their total sale, but would merely divert the trade from the hands of the original owners into those of imitators.

## HOUSE OF COMMONS.

WEDNESDAY, APRIL 9TH.

*Medical Certificates for Sickness Benefit.*

Mr. THOMAS asked the Secretary to the Treasury whether an approved member claiming insurance benefit declaring sickness on a Monday and declaring off on the following Saturday, thereby only being entitled to three days' sick pay, was compelled under the National Insurance Act to provide three medical certificates for the period; and, if so, whether he would take steps to stop such proceeding, which could only have the effect of preventing members from receiving the benefits to which they were entitled.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) replied: The question of the evidence to be required in connexion with a claim for sickness benefit must be determined by the society administering the benefit, subject to an appeal to the Commissioners under Section 67 of the Act. I see no reason why in any case in the circumstances stated a society should require three medical certificates.

*Malingering under the Insurance Act.*

Mr. C. BATHURST asked the Secretary to the Treasury whether he was aware that, owing to the delicacy of the panel doctors' position in relation to persons insured under the National Insurance Act, it was being found increasingly difficult in Gloucestershire and elsewhere to check malingering, and that in Bristol a medical referee had been appointed with this object by the Insurance Committee with the approval of the Approved Societies in that city; and whether the Insurance Commissioners favoured the same course being adopted in other administrative areas.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered: The matters referred to in the honourable Member's question are receiving the careful attention of the Commissioners.

*Sanatorium Benefit in Ireland.*

Mr. T. M. HEALY asked the Chief Secretary to the Lord Lieutenant of Ireland whether the county and city of Cork could now reckon on receiving their share from the sanatorium grant on the basis of population stated in October to be approximately £13,000; whether, as the Cork Joint Hospital board made temporary provision for insured persons suffering from tuberculosis from other counties, they were entitled to receive an additional amount from the sanatorium grant; why were counties which had not joined with the Women's National Health Association kept ignorant of the sum they were to receive and thus debarred from proceeding with their schemes; was he aware that this delay in giving information was availed of by the Women's National Health Association to canvass county councillors to induce support for schemes by which beds were to be taken in their sanatoria; had any of the £25,000 been expended, and, if so, how; did the Local Government Board usually estimate each bed would annually cost about £140; had the Women's National Health Association or its patrons suggested that about half that figure would suffice; and, if not, what were the respective estimates.—Mr. BIRRELL replied: The county and city of Cork can reckon on receiving their share of £120,000 immediately their schemes receive the final approval of the Local Government Board. Such part of the remaining £25,000 as is expended by the Women's National Health Association on behalf of particular counties will be recovered from the shares of those counties, calculated on the population basis, and will be available for distribution on the same basis as the £120,000. The remaining portion of the £25,000, representing expenditure incurred in the interest of the country generally in respect of temporary provision for the counties which are contemplating building sanatoriums for themselves, and in respect of accommodation, whether for adults or for children, which will be available in the future for any county Insurance Committee which may apply for it, will be a final charge against the £145,000 grant as a whole. The share of Cork county and city in the grant will be ascertained in this way, and will not be affected by the fact that the Cork Joint Hospital Board has provided temporary accommodation. County Councils have been apprised of their respective shares of the £120,000 and will be informed as to the allocation of the £25,000 as soon as practicable. I am not aware that the Women's National Health Association have taken any steps to obtain support for their sanatorium other than such as might naturally be made by the managing authorities of similar institutions in similar circumstances. By far the larger portion of the £25,000 has been expended, but the exact amount cannot be made up at present. The Local Government Board do not understand what is meant by the annual cost of beds. The capital cost is arrived at by dividing the total expenditure by the number of beds, but I am not at present in a position to name any figure as the usual cost. The Women's National Health Association, who enter into their own agreements with county councils, have quoted £70 as their charge per bed.

Mr. T. M. HEALY: Can the right honourable gentleman say how soon a decision will be come to in the matter?—Mr. BIRRELL: I am pressing for it and I hope it will be come to very soon.

*Industrial Poisoning.*

Mr. SNOWDEN asked the Secretary of State for the Home Department whether, in view of the fact that in trades regulated under the Factory and Workshop Act there were 656 cases of poisoning last year of which 50 were fatal, he had considered how far the regulations made for all these trades were by Section 79 of that Act not only reasonably practical but such as meet the necessities of the case; and whether, and by what section, when regulations declared by His Majesty's inspectors to be necessary were resisted, and he appointed an arbitrator instead of himself amending them, he deemed it his duty to accept the arbitrator's

advice without appeal in any case to Parliament.—Mr. MCKENNA answered: The records of poisoning in different industries and (where regulations have been made) the working of the regulations are closely watched by the Department. New codes and amendments of existing codes are prepared from time to time, as experience shows the need for further precautions. For instance, recently the rules for the manufacture of pottery have been completely recast. A code for lead smelting has been made, and a Departmental Committee is now engaged in considering the coach-building trade. As regards the last part of the question, I must point out that when objections are taken, whether by employers or workmen, to regulations proposed by the Home Office and in pursuance of the Factory Act, a competent person is appointed to inquire into and report upon the objections. A thorough inquiry is made, the evidence of the representatives of the department and of all parties interested who desire to be heard is taken, and the commissioner reports the conclusions at which he arrives on a consideration of the evidence. No express obligation is placed by the Act upon the department to accept the conclusions of the commissioner, but it is obvious that conclusions arrived at by an independent commissioner after an exhaustive inquiry of this kind are bound to carry, and I think were intended by Parliament to carry, very great weight.

*Milk Prosecutions.*

Mr. C. BATHURST asked the President of the Local Government Board whether he was aware that in the borough of Kensington and elsewhere dairymen were being prosecuted under the Public Health Acts for using derivatives of boron for the preservation of milk, although in strict compliance with the milk and cream regulations recently issued by the Board; and whether, if these regulations were deemed to be contrary to the provisions of an Act of Parliament, he would, in fairness to the dairymen, bring in an amending Bill to legalise such regulations.—Mr. BURNS said in reply: I am not aware of any such prosecutions, but I may point out that the regulations prohibit the use of any preservatives in milk.

*Tuberculous School Children.*

Mr. HOARE asked the President of the Board of Education how many schools, residential and day, there were for tuberculous children; and how many received grants from the Board of Education or local education authorities.—Mr. J. A. PEASE answered: There are seven residential hospitals or sanatoria providing accommodation for 451 children which are certified by the Board of Education and receive grants under the Education (Defective and Epileptic Children) Act, 1899. These hospitals provide almost exclusively for the treatment of children suffering from surgical tuberculosis. There are nine non-residential open-air schools certified and receiving grants under the Act referred to which make provision for 810 children, of whom the majority are tuberculous. All the open-air schools and five out of the seven hospitals or sanatoria are provided by the local education authorities.

THURSDAY, APRIL 10TH.

*Aged Insured Persons and Medical Benefit.*

Mr. ALDEN asked the Secretary to the Treasury whether the case of the insured person over 65 years of age in respect of medical benefit would be dealt with in any Bill amending the National Insurance Act.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) replied: I do not quite understand what amendment my honourable friend proposes should be inserted in the Bill. It is competent under Section 49 of the existing Act for societies and Insurance Committees to provide medical attendance as one of the benefits for persons becoming employed contributors over the age of 65. Money was voted in the recent supplementary estimates to help societies and committees desiring to provide medical attendance for such persons by a grant of 2*s.* 6*d.* per head, and the Commissioners at the same time issued a circular stating that this grant was available, and also containing information as to the rates of sickness benefit that could be provided in addition.

*Medical Benefit in London.*

Mr. TOUCHE asked the Secretary to the Treasury when it was proposed to take steps to remedy the inadequacy of medical benefit in London.—Mr. ROBERTSON (replying for Mr. MASTERMAN) said: I am not prepared to endorse the suggestion underlying the honourable Member's question. I may say, however, that the London Insurance Committee have instructed their medical benefit subcommittee to report as to whether the present system of medical benefit in London could be improved and to submit recommendations.

Mr. TOUCHE: Is it not notorious that medical benefit in London is hopelessly inadequate?—Mr. ROBERTSON: I cannot admit the inadequacy.

Mr. TOUCHE asked the honourable gentleman whether every person who had made application for permission to contract out under the National Insurance Act had received Form 43/IC, and whether many of these forms had been returned to the Insurance Committee for the county of London, or whether he had information that doctors were refusing to sign the undertaking in Part II. on the ground that its provisions were objectionable; and would a more acceptable form be substituted.—Mr. ROBERTSON answered: I am informed by the London Insurance Committee that the answer to the first part of the question is in the affirmative, and with regard to the second part of the question that 2000 or 3000 forms had been returned to the Committee. In some cases the doctors had refused to sign the undertaking referred to. The sums available for the medical attendance of persons making their own arrangements are the same as those of persons receiving attendance under the panel system, and the effect of the undertaking referred to is to secure that doctors treating them should render the same necessary services as doctors on the panel are required to render under the conditions attached to the payment of the Parliamentary grant. I see no reason why any modification of its terms is required.

Mr. TOUCHE: Is there any ground for the impression that the terms of that undertaking have been so drawn as to discourage contracting out?—Mr. ROBERTSON: They may have to some extent, as the conditions are the same.

Mr. TOUCHE asked whether a Local Medical Committee for the county of London had been formed and recognised in accordance with the Act; and, if so, how many doctors took part in the selection of the committee.—Mr. ROBERSON answered: No Local Medical Committee for the county of London has been recognised by the Insurance Commissioners.

Mr. TOUCHE: Does it not arise that no committee is entitled to style itself the Local Medical Committee for the county of London?—Mr. ROBERTSON: I should think so, but I am not sure.

*Insured Persons at Surgeries.*

Mr. TOUCHE asked the Secretary to the Treasury whether, in connexion with the administration of the National Insurance Act, due consideration had been given to the fact that it was not of advantage, either to the public health or to that of an insured patient, that he should be forced to wait, often for hours, in a grossly overcrowded room with other patients on each visit to the doctor; and if any effective measures were in contemplation to remedy this drawback.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered: I do not think that there is any ground for supposing that the conditions suggested in the honourable Member's question are likely to occur except in rare intervals, but if any complaints are made of this nature to an Insurance Committee it would be the duty of the Committee to take steps to remedy them.

*Scottish Clerks Association and Medical Benefit.*

Answering Mr. C. PRICE, Mr. ROBERTSON said: The Scottish Insurance Commissioners have had a conference with the representatives of the Scottish Clerks' Association and arranged with them that the Association should issue medical tickets to its members. At the same time the Commissioners agreed to suggest to Insurance Committees that members of the Association might, if practicable, be allowed an extension of time for the choice of a doctor, and so far as they are aware, the members are not experiencing difficulty in obtaining medical benefit. The Commissioners are, however, arranging a further conference with the Association within a few days.

*South Shields Insurance Committee.*

Mr. ROBERTSON, replying to Mr. HUDSON, said that he was informed by the South Shields Insurance Committee that they had not arrived at any such decision as to limit the choice of doctors to insured persons in their area to such doctors on the panel who at present had less than 800 insured persons on their lists.

*Elementary Schools in Scotland.*

Mr. LEICESTER HARMSWORTH asked the Secretary for Scotland what steps, if any, he proposed to take to carry out the recommendations contained in the report on the medical inspection of school children in Scotland by Dr. Leslie Mackenzie, particularly as to the increase of cloakroom accommodation, methods of cleaning, and sanitary accommodation, the present conditions of which were described therein as being responsible for disease and infection.—Mr. MCKINNON WOOD wrote in reply: As regards cloakroom and sanitary accommodation, adequate provision has been made for many years in the case of all new schools erected according to plans approved by the Scotch Education Department. The department have also, in a memorandum issued in 1907, stated precisely what, in their view, ought to be done as regards the cleansing and disinfecting of schools. There are, however, a considerable number of older schools in which the cloakroom and sanitary accommodation is unsatisfactory, and it appears from the reports of His Majesty's inspectors that many school boards are dilatory and negligent as regards the periodical cleansing of schools. I propose, therefore, to issue instructions that, whenever serious defects as regards any of these matters have been observed by the school medical officer, they shall be reported forthwith to His Majesty's inspector for the district, who will, after such further inquiry as he may think necessary, take steps under Article 32 of the Code to require managers to provide the necessary accommodation or to secure the proper cleansing of the schools under penalty of reduction of grant.

*The Physical Condition of School Children in England.*

In the course of his speech on the Education Estimates in Committee of Supply,

Mr. J. A. PEASE (President of the Board of Education) said: Our estimates are largely based on the increase in the average attendance at our schools, and it has been customary each year to anticipate some growth in the child population of the country attending our elementary schools. But last year (1911–12) those who were compelled to attend school over five years of age increased by only 4030, while those who are under five decreased by 20,094—a decrease of something like 16,000 children in our schools. The census of 1911 shows remarkable figures relating to the six-year-old children in our schools, therefore the eight-year-old children of to-day. They were fewer than the children of the year before—that is to say, instead of there being an increase in the population, there has been an actual decrease of children of school age for that particular year of 846. But that is not all. The statistics of the Registrar-General disclose this fact, which is, I think, of great importance from the national standpoint, that the birth-rate is steadily going down. Whilst in 1903 the number of births was 948,000, in the year 1912 they had fallen to 872,000.

Mr. BALFOUR: What was the total population at those dates?—Mr. J. A. PEASE: I am afraid I cannot give the totals. I have only looked into the statistics of infant mortality and births. There has been a diminution, no doubt, in the death-rate of the country, which is a very material factor in connexion with children under one year of age. I may draw the attention of the committee to the fact that while infantile mortality in 1911 was 130 per 1000, in 1912 it had fallen to 95 per 1000. But in regard to school age there is no such diminution in the child mortality as would counterbalance the effect of the diminution in the birth-rate. The total number, therefore, taking a stationary number for our estimates for next year, will be based upon the figures on the registers of last year—6,033,914 children. But these estimates are not only disturbed by the diminution in the birth-rate. They have also been disturbed by the great diminution in the number of children under five years attending our elementary schools. In 1903 there were 613,475 infants between two and five years attending our elementary schools, while in 1912 the number had dropped to 332,866, or a diminution of 280,609 young children, which is a reduction of 45 per cent. in ten years. There is no doubt a natural disposition when a smaller grant is given for children under five and when additional expenditure is placed upon local authorities which has to be met out of the grant, for more attention to be paid to those who attend school in the compulsory ages between 5 and 14 than to smaller children. I am also satisfied from inquiries which I had made that experience is disclosing the fact that education which was given in our infant departments in the past has not been to the interests of the small children who attended them. That is being more and more realised by the local authorities. In 1908 one of my predecessors

appointed a consultative committee to report on this question, and they reported that if a mother does her duty, if she takes care of her children, if she knows the best way in which to use her narrow means, if she keeps her house clean, if there is a suitable play place for the children, and if the homes are kept well ventilated and decent, there is no better place for these little dots of between three and five than under their mother's care; but if, on the contrary, the conditions are not satisfactory at home, these children should not be sent to a school where there exists adaptation of discipline and tuition suitable to older children. They should be sent to what are called nursery schools, places which should be kept warm and well ventilated, where there would be plenty of freedom of movement for the children, constant change in their occupation and opportunities for sleep, and that the teacher should be very carefully selected to look after these children, and in addition to the teachers there should also be attendant nurses. I am glad to say that the parents in this country are getting to understand better than they did how to look after their infant children. At the present moment we have in the country 200 schools for mothers. We have a great number of medical officers who superintend the inspection of the babies, either by weekly or fortnightly visits, and we have a large number of most excellent workers, trained health visitors, who visit the homes of the people and give advice to the mothers, and see that they follow the instruction which they receive at school as to the way in which the children ought to be cared for in their own homes. The point in which the medical department has taken the most interest, and which is their greatest ambition, is to prevent and remedy the physical disability which hampers a child from taking proper advantage of the education which the State gives it.

*Medical Inspection and Treatment.*

People are too apt (the right honourable gentleman went on to say) to forget that education in connexion with young children is primarily physical and not intellectual, and that if a child is to be developed into a really good citizen it is essential that every child should enjoy physical training and suitable exercises even during school hours. The object of the education given to children is to enable them to be turned out from school in a sound physical condition and to know, when he or she leaves school, how to look after his or her own health in the following years. I believe that under the system of medical inspection which now obtains in this country and under the medical treatment which is every day being increased in volume, we are going to secure in the future a much healthier race than we have had in the past, and that a great number of those infants who, when they reach the age of 16, will come under the insurance funds will not make any claims upon those insurance funds at any rate until they reach the age of 40, with very largely increased benefits to the older people in consequence of the improvement in health. I cannot exaggerate the importance which I attach to the attention which is given to the health of children during their school life. The conditions in this country are certainly not worse than those in other countries, but still they exhibit a great deal of neglect. As a result of inspection we are able to classify our figures, and the last figures show what a serious amount of illness and trouble there is amongst children of this country at the present time when they first enter the schools. 10 per cent. have their eyesight impaired in some way or other, 5 per cent. their hearing, 3 per cent. suffer from ear disease, 5 per cent. from adenoids, 50 per cent. from serious decay of their teeth (in many cases it goes up to 80 or 90 per cent. of decay more or less in degree), tuberculosis 2 per cent., heart disease 2 per cent., and malnutrition 10 per cent. I am glad to say that the authorities who have been comparing their statistics one year with another, find that there is already a real improvement in the condition of the children. The medical officer at Portsmouth informs the Board that the number of those who came to school in 1908 with dirty bodies was 13·8 per cent., but last year it was only 3 per cent. Those who came in a verminous condition in 1908 were actually 43·3 per cent., while to-day the number is 13 per cent. The medical officer informs me that as a result of the clinics which have just been established in Portsmouth he believes that the difficulty will be very greatly reduced during the current year. It may also interest the committee to know from the statistics which we have gathered as a result of this medical inspection that 1 per cent. of the children are regarded as mentally defective, 12·5 per cent. of the children are considered backward, and 3 per cent. are considered to be gifted in an abnormal degree. In our schools we are now employing 700 nurses, and there are 21,000 schools. There are 943 medical officers at work in medical service in schools. Thirty-one authorities contribute to hospitals, 56 have already established school clinics, and there is an expenditure on treatment by 229 authorities out of 317. The cost in connexion with treatment averages 2*d.* per child throughout the whole country and the amount given in support of medical treatment during the financial year ended March 31st last was £50,374. Perhaps I may be allowed to pay a special tribute to the way in which this work has been done in London. It has been perhaps the most difficult place in which to organise medical treatment. The removals of the population are immense within the confines of this great city, but in spite of this every effort is made to follow up the children. Arrangements have been carried out at 10 hospitals and 23 medical treatment centres, and very good work is being done. I have been rather better than my word in regard to the contribution which I gave to London and we were able to give the authorities there a grant for the last year of £13,683. In addition to that, London receives a grant of £725 in connexion with the open-air schools which have been established by the London County Council, and which are materially beneficial to a certain section of the less robust portion of the school population.

MONDAY, APRIL 14TH.

*Amendment of National Insurance Act.*

Mr. WORTHINGTON EVANS asked the Prime Minister whether it was intended to introduce the Bill to amend the National Insurance Act before the Whitsuntide adjournment.—Mr. ASQUITH replied: I am not in a position to make any statement on the subject.

*Medical Certificates for Sickness Benefit in Ireland.*

Sir JOHN LONSDALE asked the Secretary to the Treasury to state in how many counties and county boroughs in Ireland had panels of doctors been formed for the purpose of granting to insured persons the medical certificates which were required before sickness or sanatorium benefit could be obtained, and in how many counties and county boroughs had panels not been formed.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered: I understand from the Irish Insurance Commissioners that names of doctors are still being received and that the question is being considered at the Advisory Committee to-morrow. The Commissioners will communicate with the honourable baronet.

*Unqualified Practitioners and the National Insurance Act.*

Mr. F. HALL (Dulwich) asked the Secretary to the Treasury whether, under the National Insurance Act, arrangements could only be made with duly qualified medical practitioners for the administration of medical benefit; whether, in some instances, Insurance Committees had accepted and placed upon their panels the names of herbalists and other unauthorised persons; and, if so, whether this had been done with the sanction of the National Health Insurance Commissioners.—Mr. ROBERTSON (for Mr. MASTERMAN) said: The answer to the first part of the question is in the affirmative. The answer to the second part is in the negative. The third part does not, therefore, arise.

*Rural Practitioners and Drug Supplies.*

Mr. FITZROY asked the Secretary to the Treasury whether, in cases in which a medical man in a rural district dispensed his own drugs to insured persons, he was entitled to have inserted in his agreement a clause securing to him the right to receive the additional 2*s.* as provided by the National Insurance Act; and whether he was aware that County Insurance Committees, whilst assuring rural doctors that they were entitled to the money, asserted that they had no authority to insert a clause in the agreement to that effect, but that they must rely on their undertaking.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) replied: It is open to an Insurance Committee to make a special agreement to the effect suggested in the question, but this is not necessary as the security desired is afforded by the terms of the agreement as it stands, and does not depend simply on an undertaking of the Committee.

*Sleeping Sickness in Rhodesia.*

Dr. CHAPPLE asked the Secretary of State for the Colonies whether he had received any details of the spread of sleeping sickness in Southern Rhodesia; and, if so, would he lay them before the House?—Mr. L. HARCOURT said in reply: In August last the illness of an official of the Native Department who had been stationed in the Sebungwe district, and who has since died, was diagnosed as trypanosomiasis. A small commission of inquiry was at once formed by the Administration of Southern Rhodesia, and 11 more cases were discovered among the natives, the source of infection being traced to the same or a neighbouring district. Further investigations are being made. The Administrator has informed the High Commissioner that he proposes to remove all natives from these fly areas to areas which are free from fly, and the High Commissioner has replied that he is prepared to approve an order of removal.

TUESDAY, APRIL 15TH.

*South Shields Panel.*

Mr. WARDLE asked the Secretary to the Treasury whether his attention had been called to a resolution of the medical men for South Shields limiting the number of patients to 800, and allocating those insured persons who had not selected their medical adviser on March 22nd, 1913, to those doctors who had less than 800 persons on their list; whether such practice was contrary to the provision of the National Insurance Act guaranteeing free choice of doctor on the panel; and what he proposed to do in the matter in face of the local dissatisfaction which had been caused by this resolution.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) replied: I understand that the method of allocation referred to in the question has been recommended by the Local Medical Committee and by a majority of the practitioners on the panel present at a meeting held to consider the question, but the Insurance Committee have not yet arrived at any decision. With regard to the second part of the question, I may point out that the proposed allocation only applies to those insured persons who have failed to exercise their right of choosing a doctor or have been refused by the doctors whom they had selected. Even if it were adopted, therefore it could not have the result of preventing more than 800 insured persons choosing a particular medical man.

*Approved Societies and Medical Men.*

Mr. WATT asked the Secretary to the Treasury whether it was necessary for an Approved Society under the National Insurance Act to themselves employ and pay the medical attendants, and whether it was possible for the individual members to employ and pay, being refunded by the Society; and when his department came clearly to this view.—Mr. ROBERTSON (who replied) said: The answer to the first part of the question is in the negative. Medical benefit is administered by Insurance Committees and not by Approved Societies. With regard to the second part, persons who are allowed by Insurance Committees to make their own arrangements for medical attendance and treatment will receive contributions from the committees towards the cost of such attendance and treatment. These are definite provisions of the Act about which there has never, so far as I am aware, been any such doubt as is suggested in the third part of the question. I am not sure, however, that I fully understand from the terms of the question what form of arrangements my honourable friend has in mind. Perhaps he would furnish me with further details.

*Scottish Clerks' Association and Medical Benefit.*

Mr. WATT asked the Secretary to the Treasury whether his department wrote in the name of the head of that department on Oct. 31st, 1911, to the Scottish Clerks' Association to the effect that members of an Approved Society who were desirous of making their own arrangements for paying their doctors could do so, and that the committee would contribute from the funds out of which medical benefit was payable towards the cost of such medical attendance and treatment.—Mr. ROBERTSON (on behalf of Mr. MASTERMAN) answered: It is proposed to issue a full statement with regard to the position of the Scottish Clerks' Association which will deal with the letter referred to in the question in relation to other communications with the Association as to their position under the National Insurance Act.

WEDNESDAY, APRIL 16TH.

*Hospital Employees and Sickness Benefit.*

Mr. BOYTON asked the Secretary to the Treasury whether, under the National Insurance Act, hospital employees being insured persons receiving attention in sickness in the wards of their hospital were entitled to sickness benefit.—Mr. ROBERTSON (who replied) said: I believe the answer to the question is in the affirmative.

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URBAN UND SCHWARZENBERG, Berlin und Wien.

Die Beurteilung von Unfallfolgen nach der Reichsversicherungsordnung. Ein Lehrbuch für Aerzte. Von Dr. med. Hermann Engel, Gerichtsarzt des Königl. Oberversicherungsamtes Gross-Berlin. Price, paper, M.15; bound, M.17.

Die ambulante Therapie der Lungentuberkulose und ihre häufigsten Komplikationen. Ein kurzgefasstes Lehrbuch für Aerzte und Studierende. Von Dr. Karl Blümel, Spezialarzt für Lungen- und Halskrankheiten in Halle a.S. Price, paper, M.6.; bound, M.8.

Die Malaria nach den neuesten Forschungen. Von Prof. Dr. Angelo Celli, Direktor des hygienischen Institutes der Universität Rom. Zweite deutsche Auflage nach der vierten neubearbeiteten italienischen. Uebersetzt von Anna Fraentzel Celli. Price, paper, M.16; bound, M.18.

VERLAG DER "JUGEND," Lessingstrasse, 1, Münich.

Unser Herz ein elektrisches Organ und die Elektrothermie der Warmblüter. Von Dr. Georg Hirth. Price not stated.

WALTER SCOTT PUBLISHING COMPANY, LIMITED, London and Felling-on-Tyne.

Digestion and Diet. By Thomas Dutton, M.D. Univ. Durh. Price 2s. net.

WILEY, JOHN, AND SONS, New York. CHAPMAN AND HALL, LIMITED, London.

Organic Chemistry, including Certain Portions of Physical Chemistry. By Howard D. Haskins, A.B., M.D., Associate Professor of Organic Chemistry and Bio-Chemistry, Medical Department, Western Reserve University. Second edition. First thousand. Price 8s. 6d. net.

The Qualitative Analysis of Medicinal Preparations. By H. C. Fuller, B.S., Chief Analyst, Institute of Industrial Research, Washington, D.C. First Edition. First Thousand. Price 6s. 6d. net.

Introduction to the Rarer Elements. By Philip E. Browning, Ph.D., Assistant Professor of Chemistry, Kent Chemical Laboratory, Yale University. Third edition, thoroughly revised. First Thousand. Price 6s. 6d. net.

Chloride of Lime in Sanitation. By Albert H. Hooker, Technical Director, Hooker Electrochemical Company. Price not stated.

Food Inspection and Analysis. By Arthur E. Leach, S.B., late

Chief of the Denver Food and Drug Inspection Laboratory, Bureau of Chemistry, U.S. Department of Agriculture; late Chief Analyst of the Massachusetts State Board of Health. Revised and enlarged by Andrew L. Winton, Ph.D., Chief of the Chicago Food and Drug Inspection Laboratory, Bureau of Chemistry, U.S. Dept. of Agric. Third edition, first thousand. Total issue, 5000. Price 31s. 6d. net.

WILLIAMS AND NORGATE, London.

The Newspaper. By G. Binney Dibblee, M.A., late Fellow of All Souls College, Oxford. Price 1s. net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol. SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.

Studies in Small-pox and Vaccination. By William Hanna, M.A., M.D., D.P.H., Assistant Medical Officer of Health for the Port of Liverpool; Visiting Physician to the Port Isolation Hospital. Price 7s. 6d. net.

The Medical Annual. 1913. Thirty-first Year. Price 8s. 6d. net.

Dental Anæsthetics. With a Contribution on Analgesia by John Bolan, L.D.S. Edin. By Wilfred E. Alderson, M.D. Durham, M.S., B.Hy., D.P.H. Second edition. Price 3s. net.

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BOUCHIER-HAYES, J. T., M.D., B.Ch. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Rathkeale District of the county of Limerick.

GALLOWAY, DAVID JAMES, M.D. Edin., F.R.C.P. Edin., has been re-appointed an Unofficial Member of the Legislative Council of the Straits Settlements.

RIGG, V. L., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Littleborough District of the county of Lancaster.

SACHS, ALFRED L., M.D., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Registrar to the Grosvenor Hospital for Women, Vincent-square, Westminster.

WILLEY, FLORENCE E., M.D., M.S. Lond., has been appointed Lecturer in Midwifery at the London School of Medicine for Women.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

ABERYSTWYTH INFIRMARY AND CARDIGANSHIRE GENERAL HOSPITAL.—House Surgeon and Secretary. Salary £150 per annum, with board and washing.

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BARNET, CLARE HALL HOSPITAL, South Mimms.—Assistant Medical Officer. Salary £120 per annum, with board, residence, and laundry.

BARNSLEY, BECKETT HOSPITAL AND DISPENSARY.—Second House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and laundry.

BENENDEN, NATIONAL SANATORIUM, Kent.—Medical Superintendent. Salary £300 per annum, with residence, board, and laundry.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with board and laundry.

BIRKENHEAD UNION INFIRMARY AND WORKHOUSE.—Senior Resident Assistant Medical Officer. Salary £130 per annum, with board, apartments, &c.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Third House Surgeon. Salary £75 per annum, with board, rooms, &c.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BIRMINGHAM, RUBERY HILL ASYLUM.—Junior Assistant Medical Officer. Salary £175 per annum, with apartments, board, and washing.

BIRMINGHAM, WEST HEATH HOSPITAL AND SANATORIUM.—Medical Superintendent. Salary £300 per annum, with board and residence.

BIRMINGHAM, YARDLEY ROAD SANATORIUM.—Senior Assistant Medical Officer. Salary £250 per annum, with board and residence. Also Junior Assistant Medical Officer. Salary £200 per annum, with board and residence.

BRIDGWATER HOSPITAL.—House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

BRIGHTON, HOVE, AND PRESTON DISPENSARY (Northern Branch).—Resident Medical Officer, unmarried. Salary £160 per annum, with rooms, &c.

BRISTOL, COSSHAM MEMORIAL HOSPITAL, Kingswood.—House Surgeon. Salary £50 per annum, with board, lodging, and washing.

BRISTOL GENERAL HOSPITAL.—First House Physician, Second House Physician, and Casualty House Surgeon, all for six months. Salary £80 per annum, with board, residence, &c.

BRISTOL ROYAL INFIRMARY.—Obstetric and Ophthalmic House Surgeon for six months. Salary at rate of £75 per annum, with board, laundry, and apartments. Also Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, apartments, and laundry.

BUXTON, DEVONSHIRE HOSPITAL, Derbyshire.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CANTERBURY BOROUGH ASYLUM.—Assistant Medical Officer, unmarried. Salary £160 per annum, with board, lodging, washing, and attendance.

CARDIFF, ROYAL HAMADRYAD SEAMEN'S HOSPITAL.—Medical Superintendent. Salary £250 per annum, together with residence, firing, and lights.

CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM, Garlands.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

CHARING CROSS HOSPITAL.—Anæsthetist.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and lodging.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with board and laundry.

DORCHESTER, DORSET COUNTY ASYLUM.—Third Assistant Medical Officer. Salary £200 per annum and all found.

DUBLIN, PEAMOUNT SANATORIUM, Hazelhatch.—Resident Medical Superintendent. Salary £400 per annum.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and washing.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £120 per annum, with board and lodging.

EDINBURGH SCHOOL BOARD.—Assistant Medical Officer. Salary at rate of £300 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

EXMINSTER, DEVON COUNTY ASYLUM.—Fourth Assistant Medical Officer. Salary £130 per annum.

HALIFAX, ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence, board, and washing.

HASTINGS, EAST SUSSEX HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing. Also Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, washing, and attendance.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with rooms, board, and washing.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

KING'S LANGLEY, LEAVESDEN ASYLUM, Herts.—Second Assistant Medical Officer, unmarried. Salary £180 per annum, with board, lodging, and washing.

LARBERT, STIRLING DISTRICT ASYLUM.—Assistant Medical Officer (female). Salary £100 per annum, with board, &c.

LEAMINGTON SPA, WARNEFORD, LEAMINGTON, AND SOUTH WARWICKSHIRE GENERAL HOSPITAL AND MIDLAND COUNTIES BATHING INSTITUTION.—House Physician. Salary £85 per annum, with board, residence, and laundry.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon and Assistant House Physician for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary at rate of £100 per annum, with board, residence, and washing.

LIVERPOOL EDUCATION COMMITTEE.—School Medical Officer. Salary £250 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Medical Registrar. Salary at rate of 40 guineas per annum.

MANCHESTER CHILDREN'S HOSPITAL (Out-patients' Department), Gartside-street.—Assistant Medical Officer for six months. Salary £25.

NESTING AND LUNNASTING PARISH COUNCIL.—Medical Officer. Salary £50 per annum.

NEW HOSPITAL FOR WOMEN, Euston-road.—Anæsthetist (female).

NEWPORT AND MONMOUTHSHIRE HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £170. Also Resident and Assistant Resident Surgeons for Branch. Salaries £180 and £170 per annum respectively, with apartments, attendance, light, and fuel.

NOTTINGHAM, THE COPPICE.—Resident Medical Superintendent. Salary £750 per annum, with apartments, board, attendance, &c.

OLDHAM ROYAL INFIRMARY.—Third House Surgeon for six months. Salary at rate of £80 per annum, with residence, board, and laundry.

OXFORD, WARNEFORD MENTAL HOSPITAL.—Assistant Medical Officer. Salary £150 per annum, with apartments, board, attendance, and laundry.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—Two House Surgeons. Salary at rate of £75 per annum each, with board, &c.

PRESTON, COUNTY ASYLUM, Whittingham.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and washing.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road.—House Physician and House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, residence, washing, &c.

RHONDDA URBAN DISTRICT COUNCIL.—Assistant Medical Officer of Health. Salary at rate of £250 per annum.

RICHMOND, SURREY, ROYAL HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with board and apartments.

ROCHDALE INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Third House Surgeon. Salary at rate of £50 per annum, with board and residence.

ROYAL PARKS.—Medical Officers to Parkkeepers.

ST. PAUL'S HOSPITAL, Red Lion-square, Holborn, W.C.—Clinical Assistant.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, &c. Also Junior House Surgeon for six months. Salary £80 per annum, with residence, board, &c.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—Senior and Assistant House Surgeons, unmarried. Salaries £80 and £60 per annum respectively, with board, residence, and laundry.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £60 per annum, with board, lodging, and washing.

SHOREDITCH INFIRMARY AND WORKHOUSE.—Resident Senior Assistant Medical Officer. Salary £175 per annum, with rations, apartments, and washing.

SOUTHAMPTON, FREE EYE HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with rooms, board, and washing.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £120 per annum, with board, lodging, and washing.

TYNEMOUTH, COUNTY BOROUGH OF.—Clinical Tuberculosis Officer and Assistant Medical Officer of Health. Salary £350 per annum.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Pathologist and Assistant Medical Officer. Salary £200 per annum, with board, apartments, attendance, and washing. Also Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, attendance, and washing.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £75 per annum, with board, residence, and washing.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Clinical Assistants to Out-patients. Also Resident House Physician for six months. Salary at rate of £50 per annum.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Physician.

WEST HAM AND EASTERN GENERAL HOSPITAL.—Junior House Physician. Salary at rate of £75 per annum, with board, residence, and washing. Also Assistant Honorary Physician.

WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Surgeon. Salary £80 per annum.

WISBECH, NORTH CAMBRIDGESHIRE HOSPITAL.—Resident Medical Officer. Salary £150 per annum, with unfurnished house, free of rent and rates.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer. Salary at rate of £100 per annum, with board, rooms, and laundry.

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THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of a vacancy for a Certifying Surgeon under the Factory and Workshop Acts at Portree, in the county of Inverness.

# Births, Marriages, and Deaths.

## BIRTHS.

GRAVES.—On April 8th, at Lusmagh Lodge, Clevedon, Somerset, the wife of R. K. G. Graves, M.R.C.S., L.R.C.P. Lond., of a son.

WILLIAMSON.—On April 7th, at The Limes, Epsom, the wife of John Williamson, M.D., of a son.

## MARRIAGES.

OSBORNE—DENMAN.—On April 8th, at the Bolton Memorial Church, Oakamoor, by the father of the bride, Staff-Surgeon Richard Sidney Osborne, R.N., to Alice Campbell, eldest daughter of the Rev. Charles Denman and Mrs. Denman.

RAMSAY—ILLINGWORTH.—On April 9th, at St. James's, Blackburn, Jeffrey Ramsay, M.D., to Alice, eldest daughter of Walter Illingworth, of The Woodlands, Blackburn.

## DEATHS.

IMAGE.—On April 8th, at St. Margaret's, Bury St. Edmunds, Francis Edward Image, M.A., M.B. Cantab., M.R.C.S. Eng., aged 70 years.

MCDONALD.—On April 8th, at Charlton House, Shepperton-on-Thames, George B. McDonald, M.D., J.P., aged 71 years.

STIRLING.—On April 13th, at Belfield Lodge, Fallowfield, Manchester, Elizabeth Ferguson, wife of William Stirling, M.D., Professor of Physiology, Victoria University of Manchester.

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*N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

# Notes, Short Comments, and Answers to Correspondents.

## HEALTH MATTERS IN THE FEDERATED MALAY STATES.

REPORTS on the affairs of the Federated Malay States (Pérak, Selángor, Negri Sembilan, and Pahang) and of the Feudatory Malay States (Kelantan, Trengganu, Kedah, and Perlis) have just been presented to both Houses of Parliament by command of the King. The Federated States are situated on the mainland of the Malay Peninsula and are closely connected with the Straits Settlements. The total area of the Federation is 27,506 square miles, with a population in 1911 of 1,036,999. In regard to the Feudatory States, Kelantan, on the east coast of the Malay Peninsula, has a total length of about 120 miles and a breadth of 50 miles; the population is 286,751. Trengganu lies south of Kelantan, is of approximately similar dimensions and area to that state, and has a population of 154,000. Kedah is an ancient Mahommedan State on the West Coast of the Peninsula, with a group of islands in the Straits of Malacca, the total population being about 245,000. Perlis is a smaller State on the west coast with a population of only 32,740. All these States, both federated and feudatory, are now administered under the supervision of British advisers, with the Governor of the Straits Settlements (Sir A. H. Young, K.C.M.G.) as High Commissioner. The medical section of the report on the four federated states mentions that the year 1911 was in general a very unhealthy one. The death-rate was 37·03 per 1000, as compared with 32·16 in 1910. The birth-rate was 19·41, as compared with 21·39 in 1910. There were 97,162 admissions to hospital, the death-rate among patients being 9·57. The number of out-patients who sought treatment was 232,506, being about 15,000 more than in 1910. Malaria was the cause of 45 per cent. of the deaths, with a mortality rate of 16·39 per 1000 of the population. Dysentery and diarrhœa accounted for 19 per cent. of the total number of deaths. Beri-beri was the cause of 695 deaths, there being a slight decrease in Perak, but an increase in Selangor and Negri Sembilan. Outbreaks of cholera occurred in Lower Perak and in Krian, in the lunatic asylum at Taiping, and at Bernam in Selangor. The total number of cases was 633 and deaths 496. Small-pox, formerly the scourge of the Malay Kampongs, accounted for 288 cases and 43 deaths. Ten cases of blackwater fever, with three deaths, were recorded. Four deaths from plague were verified. The total number of vaccinations was 108,121. Malaria has engaged the constant attention of all medical officers. The disease was certainly more prevalent in 1911, and, as the principal medical officer considers, the mortality figures do not alone convey a full knowledge of the amount of harm caused by this disease. A Central Advisory Board has been appointed for the purpose of collecting and distributing information regarding malaria and advising generally on antimalarial measures.

At the Institute for Medical Research further work has been done with a view to the isolation and determination of the substance of high physiological importance contained in rice "polishings," but it is not considered possible at present to estimate the scientific value of these researches. Dr. H. Fraser, the director of the institute, reports that it is satisfactory to find that the conclusions arrived at as to beri beri have received confirmation by investigators in most of the countries where this disease occurs, and that it may now be considered as beyond dispute (1) that among people whose staple diet is rice beri-beri is caused by the continuous consumption of polished rice, and may be prevented by the substitution of unpolished rice; (2) that a harmless rice becomes a harmful one when cooked by steam under pressure. He adds that a further outcome of these researches has been to demonstrate the inefficiency of the methods by which dietetic values have hitherto been determined. Special attention has been devoted by the staff of the institute to anopheline mosquitoes, the distribution of the species and their relative efficiency as malaria carriers, with a view to obtaining accurate knowledge of the factors concerned in the spread of malaria.

The report from the Feudatory State of Kedah states that the year 1911 was marked by the occurrence of a long-continued drought and a severe and prolonged cholera epidemic in consequence. There were recorded altogether 1111 cases of the disease and 866 deaths. 151 cases were treated in the Alor Star Hospital, with 88 deaths. Cholera generally starts in Alor Star, and is due to the lack of good drinking water in the dry season. Steps are being taken to provide a water-supply from hills, but any scheme of this kind will be very costly. In the meantime, as a temporary measure, a rain catchment area has been erected at Alor Star of corrugated iron, draining into large tanks. These tanks are supposed to hold enough to supply drinking water to the town during a two months' drought. During the epidemic referred to drinking water was brought from Penang in tongkangs and sold at Alor Star, and the introduction of the Penang water was instantly followed by a decrease in the number of cases in Alor Star. In addition to cholera there

was a slight outbreak of small-pox on the coast. There were 162 cases and 41 deaths. Kedah is well vaccinated, and so the disease did not spread far. Apart from cholera and small-pox the State was healthy enough. 33 per cent. of the recorded deaths were due to fever and 19·2 per cent. to bowel complaints (excluding cholera). The total number of Malay deaths (exclusive of cholera) was 2861 and of Malay births 2963, showing a slight increase in favour of births. In the case of all other nationalities the deaths exceeded the births. There were 2293 admissions into all the hospitals with 256 deaths, including cholera patients. 21,324 patients were treated at the outdoor dispensaries. Dr. H. S. Sugars was appointed medical officer for South Kedah and stationed at Kulim, where it is intended to build a commodious and up-to-date hospital; but his duties include those of assistant superintendent of Indian immigrants, and necessitate his absence from his headquarters at Kulim for a great part of each month. As compared with the Straits Settlements or the Federated Malay States, the medical staff and hospital accommodation are still very inadequate, but much has been done during the last four years when the state of things existing previously is remembered. The report of the British adviser in Perlis shows that in that State 563 cases of cholera were reported with 484 deaths. At the dispensary there were 1336 attendances for medical treatment, the principal ailments being malaria (20 cases), venereal diseases (121 cases), dysentery (54), rheumatism (110), skin diseases (222), and bronchial diseases (70). There were 1056 vaccinations, of which 1010 were successful.

According to the medical report from the State of Kelantan the number of in-patients admitted to the hospital was 376, and there were 24 deaths. The out-patients treated at the Government dispensary numbered 6793. Of these 3993 were Malays, and it is remarked that the popularity of European treatment among the Kelantan Malays is steadily increasing. There were 457 patients treated for venereal diseases as compared with 264 in the preceding year. This increase is due to a wider knowledge of the advantages of treatment rather than to an actual increase in the amount of disease, but the residency surgeon mentions that these diseases are very prevalent in Kelantan, especially among the youth of both sexes in the town of Kota Bharu. As in previous years, Kota Bharu was comparatively free from malaria, but the disease prevailed in the up-country districts, and the Government staff at Batu Mengkebang suffered severely. Quinine was freely distributed. No case of beri-beri and only one of small-pox occurred during the year. The absence of beri-beri is attributed to the fact that local rice is almost the only rice consumed in Kelantan, even by the Chinese coolies on the estates. There was no definite epidemic of cholera, but several deaths were caused by a fatal type of epidemic diarrhœa which broke out in the middle of the year. Precautions were taken as if for cholera, and the disease did not spread. There were 3793 vaccinations performed by the Government medical staff and 976 by the Duff Development Company's medical officer, most of the latter being estate coolies. Buffalo calf lymph obtained direct from the Pasteur Institute at Saigon was used in all cases. The Duff Development Company continued to maintain their hospital with 70 beds at Kuala Lebir in charge of Dr. A. G. H. Smart, and this hospital was not confined to the employees of the company. There were 1066 patients, including 24 Europeans, admitted to this hospital during the year, 702 of these being persons employed by the company. Hospitals were also maintained on all the other estates. The residency surgeon estimates the mortality among the estate coolies at 7 per cent. Too much reliance must not be placed on this figure, as, though the number of deaths is known, the number of coolies is constantly varying.

The report from the State of Trengganu contains no special reference to medical matters.

## "THE RISING OF THE LIGHTS."

*To the Editor of* THE LANCET.

SIR,—In my letter to you of the 12th inst. I omitted to emphasise the fact that when my East London patients spoke of "*rising*" their lights, they undoubtedly meant "*raising*" them. The most common phrase was, "I keep on 'risin'' my lights." This, of course, only shows that some of those who use these words mean that they are spitting up their lungs, and throws no light on the historical origin of the phrase in question.

I am, Sir, yours faithfully,

London, April 13th, 1913. H. BRYAN DONKIN.

## THE IMPERIAL CADET ASSOCIATION.

THE Imperial Cadet Association and "Lord Roberts's Boys," of which Lord Roberts is president, was established with the fourfold object of training the youth of the country in discipline, drill, and the use of the rifle, of paving the way for a State-aided and State-supervised uniform and universal system of cadet training for all boys physically fit from the age of 12 years upwards, of providing and equipping rifle ranges in public elementary schools, and of encouraging home cadets to use the facilities provided by the nation for employment and continued and technical education. Incidentally the youth themselves are benefited by the formation of character, a true spirit of citizenship and patriotism is fostered, and the foundation is laid for the ultimate solution of the problem of national defence. Subscriptions to the general fund are needed for general training in the City of London, the annual summer camp, and for extending Imperial hospitality to cadet guests from overseas. The practice of return visits, as when Canada and New Zealand sent cadets last year to England and British cadets were sent to Canada last August, undoubtedly increases the conception of the solidarity of the Empire and binds closer the ties uniting the Mother Country and her dominions overseas. The honorary secretary is Dr. Reginald J. E. Hanson, 5, Harley-street, W., and the treasurers, to whom subscriptions may be sent, are the Hon. Herbert Gibbs and Mr. H. C. Ouvry, 10, Little College-street, Westminster, S.W.

## DANDRUFF.

*To the Editor of* THE LANCET.

SIR,—1. Can you give me any suggestion for the treatment of a young lady who has been troubled with dandruff for years and more recently the hair is found to split very much and to come out easily? Frequent brushing and washing with carbonate of potassium has been done. A spirit-and-water lotion, equal parts, with a small quantity of sublimate and some resorcin has been used. 2. Can you give any references to literature, and especially to a concise book?

I am, Sir, yours faithfully,

April 8th, 1913. J. T. (M.D.).

*** 1. The condition of seborrhœa from which the patient appears to be suffering may be treated by applications. Frequent washing is undesirable; if the hair is washed every two or three weeks it will be sufficient. The application may take the form of a lotion, which is much more pleasant than an ointment, though the latter is often more effective. A lotion which is often useful is:—

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| Formalin ... ... ... ... ... ... ... ... ... ... | 3ss. |
| Spiritus vini rect. ... ... ... ... ... ... ... ... | ℥iv. |
| Ol. olivæ ... ... ... ... ... ... ... ... ... ... | 3ii. |
| Resorcin... ... ... ... ... ... ... ... ... ... | gr.x. |
| Aq. ad ... ... ... ... ... ... ... ... ... ... ... | ℥viii. |

Various modifications of this lotion may be required according to the actual condition of the patient, upon which much depends. 2. Most of the treatises on diseases of the skin contain chapters on the treatment of seborrhœa.—ED. L.

## A NEW PRACTITIONER'S RECORD BOOK.

THE *Medical Practitioner's Desk Companion*, which has been submitted to us by Robert Gibson and Sons, Limited, of Glasgow, consists practically of a visiting list ruled for name and address, with daily attendance columns for a month to the open page, charges, cash received, folio reference, total attendances and visits, age and sex, occupation, and illness columns. These pages are indexed for each month of the year with the entire alphabet, so that any patient's monthly record may be easily found. At the end of each month are two pages ruled for engagements and an analysis page for summarising the total number of attendances in each month, quarter, and the year, and also the total number of patients, male and female respectively. The book is essentially a desk book, for though small and compact it is too bulky for the pocket. It is possible that the analysis pages may be of some service to practitioners on the panel in estimating the amount of work entailed by the Insurance Act and its *pro rata* remuneration.

## THE DEVELOPMENT OF A CHEMICAL INDUSTRY.

A VERY interesting story of the growth of a great industry is presented in a souvenir, printed and published by Messrs. Meister, Lucius, and Brüning, commemorating the jubilee of the foundation of their works at Hoechst on the Maine. The first page shows a small factory on the banks of the river, snugly situated amongst sylvan surroundings. Then follow illustrations of plans of the great "farbwerke," showing the allocation of spaces to the various departments of the business—acid works, alizarin house, alkaloid laboratories, and a section devoted to bacteriology and the preparation of serums. The final scene is an immense area covered with factories, the activities of which are illustrated by a forest of smoking shafts. The book is very artistically got up, is printed in bold type, and copiously illustrated.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

**The following journals, magazines, &c., have been received:**—Biochemical Journal, Journal of Comparative Pathology and Therapeutics, Journal of Anatomy and Physiology, Bulletin of Johns Hopkins Hospital, South African Medical Record, Revue de Médecine, Revue de Chirurgie, Brain, British Journal of Dermatology, Journal of Hygiene, Archives of Roentgen Rays, St. Paul Medical Journal, Canadian Journal of Medicine and Surgery, Guy's Hospital Gazette, American Journal of Surgery, Eugenics Review, La Clinique Ophthalmologique.

# Medical Diary for the ensuing Week.

## SOCIETIES.

**ROYAL SOCIETY**, Burlington House, London, W.

THURSDAY.—Mr. A. G. Huntsman: (1) Protostigmata in Ascidians (communicated by Prof. A. B. Macallum); (2) On the Origin of the Ascidian Mouth (communicated by Prof. A. B. Macallum).—Mr. F. A. Bainbridge, Mr. S. H. Collins, and Mr. J. A. Menzies: Experiments on the Kidneys of the Frog (communicated by Dr. C. J. Martin).—Mr. C. Revis: (1) On the Probable Value to Bacilli Coli of "Slime" Formation in Soils (communicated by Sir J. R. Bradford, secretary to the Royal Society); (2) Variation in Bacillus Coli—the Production of Two Permanent Varieties from One Original Strain by Means of Brilliant Green (communicated by Sir J. R. Bradford).

**ROYAL SOCIETY OF MEDICINE**, 1, Wimpole-street, W.

MONDAY.

SPECIAL MEETING OF FELLOWS OF THE SOCIETY: at 5 P.M.

*Discussion:*

On Alimentary Toxæmia: its Sources, Consequences, and Treatment. (Third Meeting.)

The discussion will be re-opened by Mr. Lockhart Mummery and continued by Prof. Arthur Keith, F.R.S., Dr. W. Langdon Brown, Mr. George Rowell, Mr. E. M. Corner, Mr. Peter Daniel, Mr. C. H. Fagge, Mr. H. W. Carson, Mr. K. W. Goadby, Mr. E. C. Hughes, and Mr. Macleod Yearsley.

The Fourth Meeting will be held on Monday, April 28th, at 5 P.M., when the discussion will be re-opened by Dr. William Hunter.

TUESDAY.

SECTION OF MEDICINE (Hon. Secretaries—Robert Hutchison, H. Batty Shaw): at 5.30 P.M.

*Papers:*

Dr. Lyon Smith: Gout and Chronic Rheumatism: Their Ætiology from the Bacteriological Standpoint, and Some Notes on Treatment.

Dr. T. D. Lister: Ambulatory Treatment by means of Tuberculin.

FRIDAY.

SECTION FOR THE STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—H. S. Clogg, F. Langmead, P. N. Blake-Odgers): at 4.30 P.M.

*Cases:*

Dr. Bunch: Baby with Congenital Syphilis Cured by Intravenous Injection of "606."

Mr. Anglin Whitelocke: (1) Family of Five Children, all with Thyroid Enlargement; (2) Successful Case of Cerebral Decompression for Convulsions, Jacksonian in Type, in a Child of 4.

Dr. Porter Parkinson: Two Cases of Tuberculous Kidney.

Mr. Fitzwilliams: Tumour Removed from Capsule of Shoulder Joint.

Dr. Zundel: Diabetes Insipidus Associated with Infantilism.

Dr. Cockayne: Distal Myopathy.

*Specimen:*

Dr. J. D. Rolleston: Diphtheria of Œsophagus.

*Communications:*

Mr. Anglin Whitelocke: (1) Successful Operation for Strangulated Hernia in an Infant 18 Days Old; (2) Case Simulating Meningitis in which the Symptoms were caused by the Escape of Thread Worms into the Peritoneal Cavity through a Perforated Appendix.

SECTION OF EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—G. S. Buchanan, William Butler): at 8.30 P.M.

Dr. T. Shadick Higgins: The Diphtheria Bacillus and Scarlatinal Infection.

Surgeon McCowen, R.N. (contributed by Fleet-Surgeon P. W. Bassett-Smith, C.B., R.N.): A Note on Sleeping Sickness in Principe Island and Angola, West Coast of Africa.

**ROYAL SOCIETY OF ARTS**, John-street, Adelphi, W.C.

MONDAY.—8 P.M., Dr. D. Sommerville: Antiseptics and Disinfectants:—I., Historical and General. (Cantor Lecture.)

**MEDICO-LEGAL SOCIETY**, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Paper:—Dr. W. A. Brend: The Futility of the Coroner's Inquest.

**HUNTERIAN SOCIETY.**

WEDNESDAY.—8.30 P.M., Annual Meeting. 9 P.M., Hunterian Medallist.

**HARVEIAN SOCIETY OF LONDON**, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Paper:—Dr. T. J. Horder: Infections Due to the Bacillus Coli.

**OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM**, 1, Wimpole-street, W.

THURSDAY.—10.30 A.M. to 12.30 P.M., Papers:—Mr. F. Juler: Acute Purulent Keratitis in Exophthalmic Goitre treated by Repeated Tarsorrhaphy.—Mr. Ormond: Two Cases of Permanent Hemianopia following Migraine.—Dr. Taylor and Dr. G. Holmes: (1) Conditions Present in Several Members of a Family with Hereditary Optic Atrophy; (2) Unusual Conditions associated with Optic Atrophy of the Family Type.—Mr. B. Harman: (1) An Analysis of 250 Cases of High Myopia; (2) A Suggestion for the Grading of Fundus Changes in Myopia. 2.30 P.M. to 4.30 P.M.: Papers:—Mr. A. Macnab: An Operation for the Excision of the Conjunctival Sac and Lid Margins.—Mr. Dorrell: Sensory Reflex in Tobacco Amblyopia.—Mr. T. Collins and Mr. Hudson: On the Pathological Examination of an Eye with Congenital Anterior Staphyloma.—Mr. T. Collins: Visible Vessels on the Surface of the Iris. Annual Business Meeting at the conclusion of Afternoon Meeting.

FRIDAY.—10.30 A.M. to 12.30 P.M., Discussion on Vascular and Other Retinal Changes in Association with General Disease (opened by Dr. J. Taylor, Dr. L. Werner, and Mr. G. Coats). 2.30 P.M. (at the Royal London Ophthalmic Hospital, City-road, E.C.), Cases:—Mr. A. Macnab: An Early Case of Chronic Glaucoma Operated on by Trephining in which there was subsequently a Diminution in the Excavation of the Disc.—Mr. T. Collins: A Case of Buphthalmos with Full Vision and Without any Cupping of the Optic Disc.—Mr. Ormond: (1) Thrombosis of the Retinal Veins, shown at a meeting of the Ophthalmological Society in October, 1906; (2) Case of Albuminuric Retinitis of 10 Years' Standing.—Mr. Lawford: Vascular and Retinal Changes resulting from Partial Venous Thrombosis. (A discussion will follow the examination of the cases.)——An Exhibition of Ophthalmic Instruments, &c., will be held during the days of the meetings at the Rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square, W., to which all members are invited.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**ROYAL COLLEGE OF SURGEONS OF ENGLAND**, Lincoln's Inn Fields, W.C.

MONDAY.—5 P.M., Mr. Shattock: Specimens illustrating Atrophy. (Museum Demonstration.)

FRIDAY.—5 P.M., Prof. Keith: Specimens illustrating Congenital and Acquired Deformities of the Spine. (Museum Demonstration.)

**MEDICAL GRADUATES' COLLEGE AND POLYCLINIC**, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. E. G. Little: Clinique (Skin). 5.15 P.M., Lecture:—Mr. H. Grimsdale: On the Differential Diagnosis of Glaucoma.

TUESDAY.—4 P.M., Dr. J. Collier: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. Donelan: Some Common Throat and Nose Disorders.

WEDNESDAY.—4 P.M., Mr. H. A. T. Fairbank: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. C. R. Box: Pellagra.

THURSDAY.—4 P.M., Dr. T. G. Stewart: Clinique (Medical). 5.15 P.M. Lecture:—Dr. O. K. Williamson: Arterial Spasm, especially as an Explanation of Certain Cases of Transient Hemiplegia and Monoplegia.

FRIDAY.—4 P.M., Mr. J. D. Grant: Clinique (Ear, Nose, and Throat). 5.15 P.M., Lecture:—Dr. W. Wingrave: Tonsils.

**POST-GRADUATE COLLEGE**, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Diseases of the Skin.

TUESDAY.—10 A.M., Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the Skin

WEDNESDAY.—10 A.M., Diseases of Children. Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Diseases of the Eye. Diseases of Women.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Operations. Orthopædics. 2.30 P.M., Diseases of the Eye.

FRIDAY.—10 A.M., Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Diseases of the Throat, Nose, and Ear. 2.30 P.M., Diseases of the Skin.

SATURDAY.—10 A.M., Diseases of Children. Operations of the Throat, Nose, and Ear. Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

**LONDON SCHOOL OF CLINICAL MEDICINE**, Dreadnought Hospital, Greenwich.

MONDAY.—Out-patient Demonstrations:—10 A.M. Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2.15 P.M., Mr. W. Turner: Surgery. 3 P.M., Mr. W. Turner: Operations. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.15 P.M., Mr. R. Lake: Ear and Throat.

TUESDAY.—Out-patient Demonstrations:—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Mr. R. Carling: Surgery. 3.15 P.M., Dr. G. Rankin: Medicine. 4.30 P.M., Special Lecture:—Sir Wm. Bennett, K.C.V.O.: Remarks on Some Instructive Surgical Cases.

WEDNESDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——2 P.M., Mr. L. V. Cargill or Mr. Choyce: Operations. Dr. A. Davies: Pathological Demonstration. 2.15 P.M., Dr. F. Taylor: Medicine. 3.15 P.M., Mr. Cargill: Eye Clinique. 4.30 P.M., Mr. C. C. Choyce: Surgery. 3.15 P.M., Special Lecture:—Mr. L. V. Cargill: The Determination of Visual Acuity, Diagnosis of Refraction Errors, and Detection of Malingering.

THURSDAY.—Out-patient Demonstrations:—10 A.M., Dr. Singer: Medical. Mr. H. Curtis: Surgical. 12 noon, Mr. G. N. Biggs: Throat, Nose, and Ear.——2 P.M., Mr. R. Carling or Mr. W. Turner: Operations. 3.15 P.M., Dr. R. Wells: Medicine. 4.30 P.M., Special Lecture:—Mr. H. Curtis: Fractures.

FRIDAY.—Out-patient Demonstrations;—10 A.M., Dr. G. Holmes: Medical. Mr. Cole: Surgical. 12 noon, Dr. H. MacCormac: Skin.——2 P.M., Mr. L. McGavin: Operations. 2.15 P.M., Sir John Rose Bradford: Medicine. 3.15 P.M., Mr. L. McGavin Surgery.

SATURDAY.—Out-patient Demonstrations: 10 A.M., Dr. F. Langmead: Medical. Surgical. 11 A.M., Mr. R. E. Bickerton: Eye.——10 A.M., Radiography.

**ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.**

Course of Lecture-Demonstrations on Diseases of the Chest, with Special Reference to Tuberculosis (including a Tuberculin Course):—

MONDAY.—4.30 P.M., Dr. B. King.
THURSDAY.—4.30 P.M., Dr. P. B. Ridge.
FRIDAY.—3.30 P.M., Dr. Kellie.

**QUEEN'S HOSPITAL FOR CHILDREN, Board Room of the Hospital, Hackney-road, N.E.**

THURSDAY.—4 P.M., Mr. S. Stephenson: The Common Eye Disease of Childhood—Phlyctenulosis.

**ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.**

THURSDAY.—6 P.M., Dr. W. Griffith: Eczema and its Treatment.

**ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.**

TUESDAY.—3 P.M., Prof. W. Bateson: The Heredity of Sex and some Cognate Problems. (Lecture II.)

**ROYAL SANITARY INSTITUTE, 90, Buckingham Palace-road, S.W**

WEDNESDAY.—5 P.M., Dr. C. W. Daniels: Insect Carried Diseases and their Prevention. 6 P.M., Display of Micro-cinematograph Films.

**ANCOATS HOSPITAL, Manchester.**

THURSDAY.—4.15 P.M., A Demonstration of Medical and Surgical Cases will be given by the Members of the Honorary Staff. (Post-Graduate Clinic.)

**ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.**

MONDAY.—10 A.M., Obstetrical Lecture: Mechanical Obstructions to Labour (continued). 11 A.M., Examination of Patients and Minor Operations.
TUESDAY.—10 A.M., Major Operations. 4 P.M., Class in Gynæcological Diagnosis.
WEDNESDAY.—10 A.M., Obstetrical Lecture: The Rarer Forms of Contracted Pelvis. 11 A.M., Examination of Patients and Minor Operations.
THURSDAY.—10 A.M., Major Operations.
FRIDAY.—10 A.M., Gynæcological Lecture: Pelvic Infection (continued). 11 A.M., Examination of Patients and Minor Operations. 4 P.M., Class in Gynæcological Diagnosis.

*For further particulars of the above Lectures, &c., see Advertisement Pages.*

### A DIARY OF CONGRESSES.

WE shall publish this diary from time to time that our readers may have under their hands the dates of the approaching scientific Congresses. It is unnecessary to issue the lists of all these functions week by week, and we propose to make only such gatherings as will occur in the immediate future the subject of regular announcement. The following Congresses, Conferences, and Exhibitions are announced:—

April 22nd–25th (London L.C.C. Technical Institute, Vincent-square).—Annual Nursing and Midwifery Conference.
,, 28th–Nov. 5th (Ghent).—International Exhibition.
May 15th–18th (Paris).—Twenty-first Annual Congress of the Royal Institute of Public Health.
May–October (Leipzig).—First International Building Exhibition.
,, ,, (London, Crystal Palace).—Anglo-German Exhibition.
June 24th–27th (London, Ontario).—Canadian Medical Association.
,, 30th and July 1st (London, Guildhall).—Conference on Diet, Cookery, and Hygiene in Elementary Schools and Institutions.
July 7th–12th (Exeter).—Twenty-eighth Congress of the Royal Sanitary Institute.
,, 16th–18th (Oxford, Keble College).—Oxford Ophthalmological Congress.
,, 22nd–25th (Brighton).—Eighty-first Annual Meeting of the British Medical Association.
Aug. 1st–3rd (Ghent).—Congress against the Adulteration and Deterioration of Foodstuffs.
,, 4th and 5th (London, Caxton Hall).—English-speaking Conference on Infant Mortality.
,, 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 20th–26th (Ghent).—Third International Congress of Neurology and Psychiatry.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.*

*Lectures, original articles, and reports should be written on one side of the paper only,* AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

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## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, April 16th, 1913.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radio in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Wet Bulb. | Dry Bulb. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|
| April 10 | 30·03 | WNW | ... | 66 | 51 | 43 | 45 | 47 | Raining |
| ,, 11 | 30·05 | N.E. | 0·07 | 50 | 45 | 39 | 37 | 40 | Overcast |
| ,, 12 | 29·87 | N.E. | 0·45 | 85 | 42 | 36 | 35 | 39 | Fine |
| ,, 13 | 30·14 | N.E. | ... | 87 | 45 | 34 | 33 | 37 | Cloudy |
| ,, 14 | 30·11 | S.W. | ... | 71 | 49 | 36 | 40 | 43 | Raining |
| ,, 15 | 29·98 | S.W. | 0·09 | 104 | 55 | 43 | 46 | 49 | Cloudy |
| ,, 16 | 29·44 | S.W. | 0·19 | 78 | 57 | 47 | 47 | 48 | Raining |

## Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Aberystwyth Infirmary, Secretary of; *Allgemeine Wiener Medizinische Zeitung*, Vienna; Allen Advertising Agency, New York, U.S.A.; Admiralty Medical Department, Director-General of; Dr. Adolphe Abrahams, Lond.; Dr. J. Johnston Abraham, Lond.; *The American Practitioner* Co., New York; Annual Nursing and Midwifery Conference, Lond., Secretary of; Anglo-American Pharmaceutical Co., Croydon; Anglo-German Exhibition, Lond., Press Representative of.

B.—Mr. R. G. Badger, Boston, U.S.A.; Messrs. C. Barker and Sons, Lond.; Messrs. J. B. Baillière et Fils, Paris; Messrs. Butterworth and Co., Lond.; *Birmingham Daily Post*, Manager of; Birkenhead Guardians, Clerk to the; Brighton, Hove, and Preston Dispensary, Assistant Secretary of; British Medical Association, Hon. Secretary of East London Branch, S. Africa; Mr. E. L. Baillieu, Lond.; Birmingham Corporation, Medical Officer of Health to the; Bristol General Infirmary, Secretary of; Mr. W. G. Burcombe, Lincoln; Mr. D. T. Bostel, Lond.; Beckett Hospital, Barnsley, Hon. Secretary of; Dr. G. Blacker, Lond.; Dr. W. Cecil Bosanquet, Lond.; Mr. W. Blenkin, Lond.; Dr. W. H. Bates, New York; Mr. Alfred Brett, Lond.; Dr. J. Blumfeld, Lond.; Bolingbroke Hospital, Lond., Secretary of; Bispham-with-Norbreck, Medical Officer of Health of.

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K.—Professor A. Keith, Lond.; Messrs. C. Knight and Co., Lond.; Kenny's Advertising Agency, Dublin; Mr. E. Knight, Lond.; King Edward VII.'s Hospital, Cardiff, Secretary and General Superintendent of; Dr. A. F. A. King, Washington; Mr. C. L. Kingsford, Lond.

L.—Mr. H. K. Lewis, Lond.; Lancashire County Asylum, Winwick, Clerk to the; Messrs. Lee and Nightingale, Liverpool; Mr. R. T. Lang, Lond.; Messrs. Lee and Martin, Birmingham; London (Royal Free Hospital) School of Medicine for Women, Lond., Secretary of; Local Government Board, Lond., Secretary of; Liverpool Medical Institution, Secretary of.

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